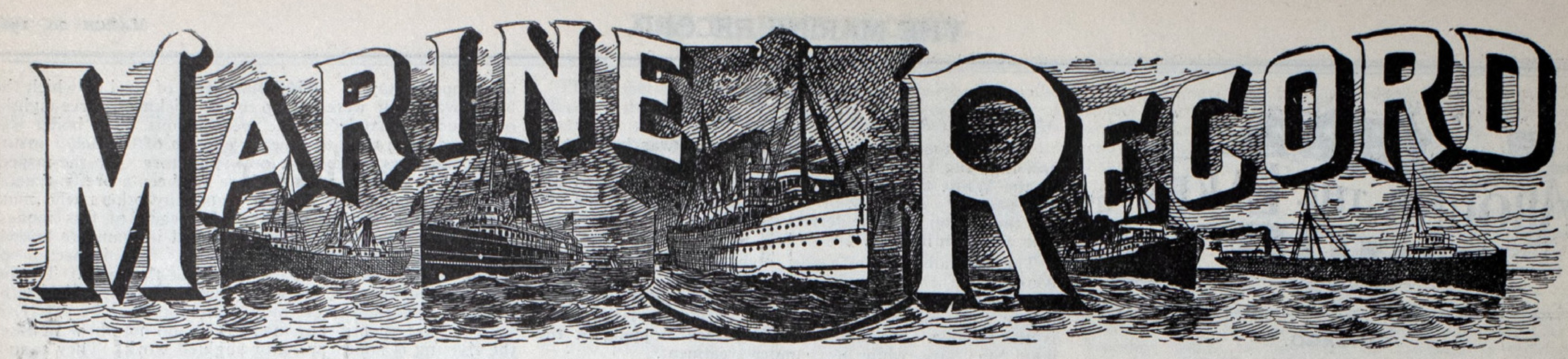


MARINE RECORD

ESTABLISHED 1878.

VOL. XXV, No. 12. CLEVELAND -- MARCH 20, 1902 -- CHICAGO. $2.00 Per Year. 10c. Single Cop

LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and to improve the character of the service rendered to the public.

PRESIDENT.

Wm. Livingstone, Detroit.

1ST VICE-PRESIDENT.

J. C. Gilchrist, Cleveland.

SECRETARY.

Harvey L. Brown, Buffalo.

TREASURER.

George P. McKay, Cleveland.

COUNSEL.

Harvey D. Goulder, Cleveland.

EXECUTIVE AND FINANCE COMMITTEE.

James Corrigan, Chairman, Cleveland.

COMMITTEE ON LEGISLATION.

Gibson L. Douglas, Chairman, Buffalo.

COMMITTEE ON AIDS TO NAVIGATION.

George P. McKay, Chairman, Cleveland.

A REVISED SHIPPING BILL.

The navigation bill now before committees of both Houses of Congress, at the instance of the National Lumber Exporters' Association, has undergone considerable revision from the first to last and as reported will read as follows:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section one of an Act entitled "An Act relating to navigation of vessels, bills of lading, and to certain obligations, duties, and rights in connection with the carriage of property," approved February 13, 1893, be, and it is hereby, amended so as to read as follows:

"That it shall not be lawful for the manager, agent, master or owner of any vessel transporting merchandise or property from or between ports of the United States and foreign ports, to insert in any bill of lading or shipping document any clause, covenant, or agreement whereby it, he, or they shall be relieved from liability for loss or damage arising from negligence, fault, or failure in proper loading, stowage, care or proper delivery of any and all lawful merchandise or property committed to its or their charge, and it shall not be lawful for the manager, agent, master, or owner of any such vessel to insert in any bill of lading or shipping document any clause, covenant, or agreement, whereby there is imposed on any such merchandise or property, or on the consignee or consignees thereof, the payment of any port, harbor, dock, landing, lifting, weighing or sorting charges, or charges of any kind for the discharge or delivery thereof, the payment of which is imposed on the manager, agent, master, or owner, or any persons or agencies other than the consignee or consignees thereof, by the laws, statutes, or customs of the foreign country or countries to which such merchandise or property shall be transported or which clauses are contrary to such laws, statutes or customs, or any clause, covenant, or agreement whereby are impaired the rights or privileges granted to the consignee or consignees of such merchandise or property by the laws, statutes, or customs of the foreign country or countries to which such merchandise or property shall be transported. And any and all words or clauses of such import inserted in bills of lading or shipping receipts shall be null and void and of no effect.

Section 2. That section five of said Act be and it is hereby amended to read as follows:

"Section 5. That for a violation of any of the provisions of this Act the agent, owner, or master of the vessel guilty of such violation, or who shall violate the provisions of this Act by inserting in any bill of lading any clause imposing any unlawful charge, shall be liable to a penalty of $500, one-half of which shall go to the party injured and the remainder to the government of the United States. The amount of such penalty and costs for such violation shall be a lien upon the vessel whose agent, owner, or master is guilty of such violation, and such vessel may be libeled therefor in any District Court of the United States within whose jurisdiction the vessel may be found either by the United States or in the name of the United States by the party injured."

Section 3. That this Act shall take effect from and after the first day of July, 1902.

LAKE LEVELS.

The gauge records of the United tSates Lake Survey show the following mean stages of water for February, above mean sea-level:

Lake Superior, 601.76 feet; Lakes Huron and Michigan, 579.21 feet, and Lake Erie, 570.77 feet. These stages show Lake Superior to have been 0.37 foot lower than during same month last year, and 0.17 foot lower than in February, 1895. Lakes Huron and Michigan were 0.36 foot lower than during same month last year, and 0.26 foot lower than during February, 1895. Lake Erie was 0.37 foot lower than during same month last year, and 0.37 foot lower than during February, 1895.

W. L. Fisk.
Major, Corps of Engineers, U. S. A.

CANADIAN ORE PRODUCTION.

The production of pig iron in the Dominion of Canada, as ascertained from the manufacturers by the American Iron & Steel Association, amounted in the calendar year, 1901, to 244,973 gross tons, as compared with 86,090 tons in 1900, 94,077 in 1899, 68,755 in 1898, 53,796 in 1897, 60,030 in 1896, 37,829 in 1895, and 44,791 tons in 1894. The statistics were not gathered by the Association prior to 1894. Of the production last year, 228,893 tons were made with coke, and 16,083 tons with charcoal. The production of Bessemer pig iron included in the figures given above, amounted to 29,577 tons. Neither spiegel nor ferromanganese was made. On December 31, 1901, the unsold stocks of pig iron in Canada amounted to 59,472 gross tons, as compared with 12,465 tons at the close of 1900, and 9,932 tons at the close of 1899. Of the unsold iron on hand, 54,563 tons were coke pig iron, and 4,909 tons charcoal pig iron. On December 31, 1901, there were fourteen completed blast furnaces in Canada and four furnaces were in course of construction. Of the completed furnaces seven were in blast. During 1901, four furnaces were erected by the Dominion Iron & Steel Co., of Sydney, Cape Breton, three of which were blown in. The fourth was put in blast January 18, 1902. Of the fourteen completed blast furnaces, nine were equipped to use coke for fuel, four charcoal and one charcoal and coke.

TO CONSERVE LAKE LEVELS.

Among the provisions of a bill to be reported to the House is one which relates to the building of a dam across the Niagara river at the outlet of Lake Erie. The bill also provides for the formation of an international commission to be composed of three members from the United States and three from the government of Great Britain to represent the Dominion of Canada.

The duty of this commission shall be among other things to report upon the advisability of locating a dam in the Niagara river at the outlet of Lake Erie with a view to determining whether such dam will benefit navigation. If such a structure is deemed advisable, the commissioners shall make recommendations to their respective governments looking to an agreement or treaty that shall provide for the construction of the dam. The commission shall also make estimate of the probable cost of the work.

Should such an international commission agree upon the building of a dam, it will compel the building of a channel for deep-draught vessels around the shoals and rapids at the head of the Niagara river, regardless of the cost.

The proposition is to raise the water two or three feet above the low-water level of the lake. That will give increased depth to all the ports of Lake Erie as far west, it is believed, as the Detroit river, without doing any damage, because it will merely raise the level of the lake to what it formerly was. When the water rises above that point it will flow over the dam through the sluiceways.

NAVAL DEVELOPMENT.

The British Engineer quotes with approval Rear Admiral Melville's article in the Philadelphia Record on "Naval Development During the Next Decade." The Engineer says in part: "Admiral Melville is Chief of the Bureau of Steam Engineering at Washington. His position is akin to that worthily held by Sir John Durston in this country; but he has a much freer hand. His position is more influential, because there is nothing quite like our own Board of Admiralty at Washington. What Admiral Melville has to say is, at this juncture, when our own navy estimates are being discussed, of supreme importance. He anticipates; he suggests; he prophesies. But his anticipations may be regarded as certainties; his suggestions are the embodiment of accepted intentions; his prophecies are those of one who knows. Very remarkable is the picture which he draws of the naval policy of the United States.

"Admiral Melville says: 'Since the navy should be too large rather than too small, it should be regarded as a weapon rather than a shield; for the exigency might arise when it would be necessary to seek the enemy's shores. If maintained to a strength sufficient to be used only as a shield, it would not be long before the navy might be compelled to retreat from its position off shore, and seek the shelter of the harbor batteries.'

"The martial spirit of the people of the United States is manifesting itself vigorously. Admiral Melville directs attention in stirring phrases to the interest taken by the community in naval matters. If the people of the United States are continuously determined—and at this moment they are determined—that they will have fleets which shall be able to cope with the mightiest naval powers of the Old World, not singly, but in groups, the result of alliances, they will provide those fleets. In the near future Europe will have to recognize the intrusion of an enormous naval power.

Admiral Melville tells us that progressive development will not only be made in building more ships, but in making each ship more formidable. Perhaps the most interesting statement which he makes in this connection is that ships will, in the future, be built much more quickly than they have been built in the past. Up to the present five years have been required to complete a warship in America. That time must be shortened; and he tells the world very plainly that if private yards cannot do this, it may very well be that government shipyards will be established. As to armament, he holds that the 12-inch gun must go. Nothing was effected by it at the battle of Santiago. All that the 12-inch gun can do can be done as well with the much handier, lighter, and cheaper 10-inch gun.

"It is impossible for this nation to regard without some sense of a possible risk to be incurred in the future the advent of another great naval power. No kinship, no friendship, must be suffered to blind us to the ever present, ever cogent truth that Great Britain can never under any circumstances permit any other nation to excel her in that sea power on which she depends for her existence. Quoting once more from an American authority we say: 'It is for inventive science to furnish the inert material, for the nation to endow it with vitality in providing the men behind the guns.' "

NAVAL VESSELS UNDER CONSTRUCTION.

The degree of completion of vessels under construction for the United States Navy on March 1, is as follows: Battleships—Maine, 84 per cent.; Missouri, 58; Ohio, 55; Virginia, 0; Nebraska, 0; Georgia, 7; New Jersey, 7; Rhode Island, 7. Armored Cruisers—Pennsylvania, 17 per cent.; West Virginia, 10; California, 1; Colorado, 20; Maryland, 9; South Dakota, 1. Protected Cruisers—Denver, 74 per cent.; Des Moines, 65; Chattanooga, 56; Galveston, 53; Tacoma, 40; Cleveland, 76; St. Louis, 3; Milwaukee, 0; Charleston, 1. Monitors—Arkansas, 92 per cent.; Nevada, 92; Florida, 88; Wyoming, 80. Torpedo Boat Destroyers—Bainbridge, 99 per cent.; Barry, 97; Chauncey, 98; Dale, 98; Decatur, 99; Hopkins, 82; Hill, 81; Lawrence 99; MacDonough, 98; Paul Jones, 85; Perry, 89; Preble, 87; Stewart, 65; Truxton, 86; Whipple, 83; Worden, 83. Torpedo Boats—Stringham, 98 per cent.; Goldsborough, 93; Blakely, 98; DeLong, 98; Nicholson, 97; O'Brien, 98; Thornton, 98; Tingey, 74; Wilkes, 94. Submarine Torpedo Boats—Plunger, 80 per cent.; Adder, 98; Grampus, 62; Moccasin, 96; Pike, 57; Porpoise, 92; Shark, 88.

AROUND THE LAKES

CHICAGO.

Special Correspondence to The Marine Record.

Mr. Edward J. Kelley is appointed general freight agent of the Lake Michigan and Lake Superior Transportation Co., vice Mr. W. L. Guthrie, resigned.

The following meteorological observations are furnished by the office of the United States Weather Bureau, Chicago, for the week ending March 19: Prevailing wind directions for the week, south; highest velocity, 57 miles from the west on the 16th; mean temperature for the week, 32 degrees; highest temperature, 54 degrees on the 14th; lowest, 3 degrees on the 17th.

The schooner James G. Blaine has been sold by J. J. Warde to C. G. Ripson, of Oswego, N. Y., for $10,000. The Blaine will be taken to Lake Ontario at the opening of navigation, and will be used in the coal trade hereafter on that lake. The vessel was originally known as the Pensaukee, and was owned for many years by Capt. J. S. Dunham, who sold her to Capt. Warde a few years ago.

By the end of the week all the regular steamer lines on Lake Michigan to Chicago will be in operation. The first boats in from the east shore reported but little difficulty with the ice, which has practically disappeared from this end of the lake. All the east shore ports are now open, and boats can get into most Green Bay ports. Several small steamers and schooners are fitting out, and will get away Saturday.

Considerable wheat was on the market the first part of the week at 1¾c to Buffalo, but vesselmen held for 2c, and no charters were reported. There seems to be a general disinclination among vessel owners, now that they have waited so long for winter cargoes, to take any grain at all until it becomes plainer that navigation is going to open. The cold wave froze up the ice fields now extending from Mackinaw City to within five miles of Sheboygan, and it will take several days of warm weather to thaw them out again.

Some of the marine insurance companies are going to increase the percentage of loss from 50 to 60 per cent in order to make vessels of A2 class total losses. In a number of instances last season wrecked ships were thrown on the underwriters under the 50 per cent clause, and the underwriters do not want to take any more vessels of that class than they are compelled to. When damage and wrecking bills are required to reach 60 per cent of a boat's valuation before the ship becomes a constructive total loss, the way the underwriters figure the repair bills, there will not be much left of the wreck to abandon to anybody.

The business of the ninth district of the government supply service which has headquarters at St. Joseph, has increased so that the steamer Dahlia is no longer able to handle it. The government has ordered the new steamer Sumac to that point for duty. She is of 700 tons displacement and cost $115,000. During last year the Dahlia traveled 11,000 miles and delivered 25,000 gallons of oil. Her capacity was not sufficient to satisfy all the demands, however, and as a result some light-houses on Lake Michigan and Green Bay were obliged to close earlier than usual, at least so it is stated although I have heard no complaints of such being the case.

The death is announced of Charles E. Chase, for many years conspicuous in marine and transportation circles in Chicago and one of the original members of the Chicago board of trade. Decedent came to Chicago in 1845. He was born in Buffalo and married a daughter of William Wells, who built the first grain elevator there. Through association in business with his father-in-law, he drifted into the lake transportation business, and when he became interested financially in the Evans line of boats, his office was moved to Chicago. Later, when the Evans Line was merged into the Anchor Line Mr. Chase became a member of the firm of Gibson & Chase, Chicago agents for the line. He retired from business in 1875.

◆

Justice T. F. Dana, Ogdensburg, has rendered judgment for $100 and costs in favor of the plaintiff in the suit brought by Capt. Richard Fitz Gerald against Thomas W. Laidlaw, to recover for services performed in selling the steamer Unique. The plaintiff contended throughout that he was largely instrumental in influencing the officials of the Delaware Co., to buy the boat, he having made an inspection of the vessel and related her good points to the prospective purchasers. The case has been keenly fought at every step. R. E. Fitzgerald was attorney for the plaintiff and Thomas Spratt for the defendant. Plaintiff asked judgment for $200.

DETROIT.

Special Correspondence to The Marine Record.

The Tashmoo, of the White Star line, was brought in tow of a tug from her dock at the eastern end of the city to the White Star line dock, where she will be fitted out and painted. The City of Toledo is also being fitted out for the season and the ferries have been in course of repair and painting, etc.

The specialist whom vessel owner John E. Mills has consulted at Detroit holds out strong hope of being able to save the sight of one eye. The sight of the other is nearly gone and cannot be saved. Paralysis of the nerve is the trouble. Mr. and Mrs. Mills are stopping at the hotel St. Claire, while he is under treatment.

Commander E. H. Gheen, of the United States Navy, is now in charge of the eleventh light-house district, succeeding Commander J. C. Wilson, who has completed his term of detached duty and will now go back to the navy. At present he will be under waiting orders but later will probably be assigned to the Asiatic squadron.

George E. Fairbairn, for twelve years chief clerk in the office of the supervising inspector of steam vessels in this city, has been promoted to cheif clerk in charge of the river and harbor work and is now in the office of Capt. Beach, light-house engineer for the eleventh district. Harry B. Lockwood, of Buffalo, succeeds him as chief clerk in the steamboat inspector's office.

An independent towing company is being organized at this port. The stock is being taken by Chicago vessel owners who are interested in having some opposition here to the big trust. There are already independent towing companies at Port Huron, Toledo and Buffalo. The Chicago company is not financially connected with the fleets in other ports, but, it is expected, will co-operate with them. It is said that before the season closes there will be independent towing companies at all of the large ports.

The report of the ice conditions on the Great Lakes issued by Inspector Conger, of the Weather Bureau, shows that there is but little ice in Lake Superior and Lake Huron. The ice fields along the east coast of Lake Michigan are moving off shore and breaking up. There is but little ice at the Straits of Mackinac, but Mud Lake reports ice about 12 to 16 inches thick. The St. Clair and Detroit rivers are practically free frim ice. The ice field in Lake Erie extends from Huron east to Buffalo, but it is moving off the shore and breaking up. Put-in-Bay reports considerable ice in sight, but that the fields there also seem to be breaking up.

The strike inaugurated at Davidson's shipyard appears to be more serious that at first believed. The ship carpenters and ship calkers walked out in a body, including some men who have worked for Capt. Davidson for over 20 years. They claim that they cannot live on $2 per day, that they can receive more in other lake shipyards, that they notified Capt. Davidson some weeks ago, but never received a reply, and that they will seek work elsewhere before returning at present wages. Capt. Davidson is south for his health and this complicates matters. The men began removing their tools today and seem to be in earnest. Capt. Davidson has always been known as a liberal employer of labor.

The White Star Line, which operates boats between Detroit and Port Huron, and Detroit and Toledo, has announced a new plan for the coming season. It will inaugurate the use of mileage books on lake boats. The company proposes to sell a 1,000 mile book at the rate of a cent a mile without limit, the book being good until used. This will permit of a saving of fifteen cents on either of the through runs, or more than that on the runs between the other stations. The plan is an innovation on the lakes, whether it will ever be generally adopted is a question, but the chances are against it, for the reaston that few other lines have any local stops, running mostly between terminal stations. On through runs very little use could be made of the mileage book, as the rates are ordinarily either very close to a cent a mile or under.

Word reached here on Tuesday of the sudden death of William J. Harling, of Detroit, at Manitowoc, Wis. Mr. Harling was a marine engineer and known at all the ports on the lakes. William John Harling was a Canadian by birth. He was born in St. Helen's island, near Montreal, about fifty years ago. When a young child he removed with his parents to a farm in Anderdon township, Essex county, Ont., and later to Detroit. During his earlier manhood at the time of threatened Fenian invasion of Canada, he took a prominent part with the Dominion forces in repulsing the invaders. Mr. Harling left for Manitowoc on March 10 to aid in fitting out his steamer, the Raleigh, owned by Henry Weinman, of Detroit. The information received stated that he had suffered a stroke of apoplexy and died a short time after. Among the vessels on which Mr. Harling had seen service were the tug Dispatch, steamers Sanilas, Saginaw Valley and others. It would have been his second season on the Raleigh. He was a member of Union No. [illegible] of the Marine Engineers' Benevolent Association.

The jury in the Penberthy boiler explosion case has acquitted the company and Engineer Riley of blame, as the testimony showed the boiler to have been defective when laid down in the Penberthy boiler room. The steel, not being of the proper composition, was brittle; the boiler was not properly stayed. The very sheets of steel of which the boiler was made were not up to the thickness, three-eighths of an inch, demanded by the specifications. The boiler was inspected from time to time by experts of the boiler insurance companies and by the local inspectors. On the inspections of the former, at least, there has been a pretty general reliance by owners of factories and any others who must use steam for motive power. The result of this inquest shows that the reliance is not founded in complete knowledge by insurance companies' agents. The inspection of the boiler by them begins too late to be thorough. The insurance companies do not know that the boiler, which withstands a hydrostatic test only presumptive of its safety, is built of steel scientifically made. They do not know whether the riveting is honest work or slighted work. They cannot know either of these factors if inspection of the boiler does not start with inspection of material before actual construction begins.

The items making up the rivers and harbors appropriations were passed upon by the house committee and will be reported this week. The aggregate is about the same as in the bill passed by the house last session, $24,000,000 being allowed for cash appropriations to be available in 1902, and about $36,700,000 authorized for continuing contracts to be available after July 1, 1903. Items for surveys have not yet been passed upon. Michigan's allotment is $7,725,350, of which $5,495,000 is for continuing contracts, made up as follows: Improvements from Detroit to Lake Erie, $1,250,000; new channel at West Neebish, St. Mary's river, $4,000,000; Marquette harbor, $80,000; Ludington harbor, $165,000. The cash appropriations for Michigan are as follows: Harbors, Marquette, $25.000; Grand Marais refuge, $70,000; Menominee harbor and river, Michigan and Wisconsin, $20,350; St. Joseph, $24,000; South Haven, $12,000; Saugatuck, $15,000; Holland, $73,000; Ontonagon, $50,000; Grand Haven, $10,000; Muskegon, $75,000; Pentwater and White Lake harbor, $35,000; Ludington, $75,000; Manistee, $42,000; Portage Lake refuge, $59,000; Frankfort $54,500; Charlevoix, $20,000; Petoskey, $15,000; Cheboygan, $8,000; Sand Beach refuge, $7,500. Rivers, Saginaw, $50,000; Black, at the mouth, and Rouge, $7,500; Hay Lake channel, St. Mary's river, $500,000; Detroit (improvement from Detroit to Lake Erie), $500,000; Grand river, $125.000; St. Clair Flats canal $330,000.

◆

BUFFALO.

Special Correspondence to The Marine Record:

Arangements for the sale of the excursion steamer Puritan have been made and she will be put up at auction at Buffalo on Thursday of this week, unless the sale is again postponed. A mortgage against the Puritan is held by the People's bank.

The following meteorological observations are furnished by the office of the United States Weather Bureau, Buffalo, for the week ending March 19: Prevailing wind direction for the week, west; highest velocity, 52 miles from the west on the 17th; mean temperature for the week, 34 degrees; highest temperature, 59 degrees on the 15th; lowest, 14 degrees on the 19th.

A report has been going the rounds that there is some ill-feeling between the Detroit & Buffalo line, and the Cleveland & Buffalo line, which has prevented the two from coming to an agrement to use the same docks at Buffalo. The story was emphatically denied by T. F. Newman, of the C. & B. line. The story is that the C. & B. people objected to the local rates, which the D. & B. officials have announced between Detroit and Buffalo. The basis of the objection was said to be that rates are less than the C. & B. can afford to accept and handle the business through Cleveland, where a connection is made with the Detroit boat. The C. & B. has expected all along to lose most of this through business, but has consented to the new line list, because it is financially interested, and second, because of the extra advertising which the lake lines will receive through it. It is true that the two companies will use different docks at Buffalo, due probably to inability to both use the same dock, the one now occupied, without seriously interfering with the commerce of the river. The arrangement is one of convenience, therefore, rather than an outgrowth of ill will.

The lumber fleet under the management of John J. Boland will consist of eleven vessels, the Kittie M. Forbes and consorts Saveland and Brunette; John Pridgeon, Jr., and consort D. P. Rhodes; Garden City with two consorts not yet selected; S. E. Sheldon and consort Negaunee, and the schooner John Magee, which will sail as usual. The Forbes and Pridgeon tows are chartered for lumber from Duluth to Tonawanda, for White, Gratwick & Co., the entire season. A special trip will be made to Georgian Bay for the Brunette, which will bring down a cargo from Little Current to Tonawanda. The following appointments of masters are announced: Forbes, Capt. D. O'Hagan; Saveland, Capt. Debeau, from the Celtic; Brunette, Capt. Hugh O'Hagan; Pridgeon, Capt. John O'Hagan from the Garden City; Rhodes, Capt. Frank Brown, appointed by the Bradley interest from which she was chartered; Garden City, Capt. J. Davaney; Sheldon, Capt. George McGrain; Negaunee, Capt. Olson; Magee, Capt. Alex Gordon. The work of cutting down the Forbes to a single decker has been completed and the engineer will go at work on her at once.

CLEVELAND.

Special Correspondence to The Marine Record.

The steamer William H. Gratwick, built at and hailing from this port, is registered at 4,776 tons gross and 3,352 tons net.

Mr. J. C. Joll, the ship carpenter, calker and spar maker, is kept quite busy these days and employing a large number of skilled workmen. One of his biggest jobs is the almost rebuilding of the Caledonia, as she is getting new beams, planking and upper works, new cabins, etc. The Hutchinson, Ginto and Paige are also receiving extensive repairs and a general overhauling.

The navigation of Lake Erie for the season of 1902 was opened on Tuesday, and with it the first test of wireless telegraphy on the chain of lakes was made. The opening of navigation between Detroit and Cleveland, by the steamer City of Detroit, of the Detroit & Cleveland Navigation Co., came earlier than usual by a week or ten days. The first trip was a success in every way, summer schedule time being maintained from this out.

Capt. George P. McKay, chairman of the Lake Carriers' committee on aids to navigation, received a dispatch from H. A. Hackett, of Amherstburg, yesterday, stating that the towers will be lighted to-night, but that there is too much ice to place the float lights. Duff and Gatfield ranges were also lighted. Capt. McKay said yesterday that the Lake Carriers' lightship Kewaunee will leave for her station on Southwest shoal Sunday morning.

It is stated that the United States Steel Corporation—A. B. Wolvin engineering the deal—has obtained sufficient tonnage at 75 cents a ton between Duluth and Ohio to move 1,200,000 tons of ore this season. After this announcement was made A. B. Wolvin said: "We are easy now. We have about all of the boats chartered that we will need for the coming year, and are perfectly willing to depend upon the open market for what boats we shall need."

Capt. John Mitchell received a dispatch on Tuesday, from the Boston agent of the company owning the Wadena and Fitzpatrick. This announces that the seas was still running too high to permit of any work being done on the barges, whereby their release might be effected. It was also said that none of the bodies has washed ashore. It is doubtful whether the Wadena, being in the more exposed position, will ever be floated. She is held fast and has stood a good deal of hammering in the last week. It is judged that seas as heavy as have been described in recent dispatches would naturally do more or less damage to the boats in an exposed position. The Wadena, in trying to lighter, in which W. H. Mack lost his life, came out to Cleveland in 1887, having been built for Capt. Thomas Wilson. She was purchased of him by the syndicate headed by Mr. Mack. She measured 212 feet over all; 37 feet beam, and 16 feet deep. Her gross tonnage is 1,076.

The annual meeting of the stockholders of the Great Lakes Towing Co. was held yesterday afternoon in the general offices in the Western Reserve building. The election resulted in the choice of the following directors: General George A. Garretson, W. G. Mather, L. C. Hanna, H. G. Dalton, C. E. Grover, R. R. Rhodes and T. F. Newman, of Cleveland; L. M. Bowers and W. T. Coleman Carpenter, of New York; C. W. Elphicke and D. Sullivan, of Chicago; Ed. Smith and J. Ash of Buffalo; Capt. A. B. Wolvin, of Duluth; Capt. James Davidson, of West Bay City. The executive committee was made up of the following members of the board of directors: G. A. Garretson, James Davidson, A. B. Wolvin, L. M. Bowers, C. E. Grover, H. G. Dalton, T. F Newman, R R. Rhodes and Edward Smith. The election of officers resulted in the following: Chairman of the board, Gen. G. A. Garretson; president and treasurer, T. F. Newman; first vice president, Capt. James Davidson; second vice president, Capt. A. B. Wolvin; third vice president, Edward Smith; fourth vice president, D. Sullivan; secretary, M. H. Wardwell; general manager, Capt. C. A. Sinclair; general counsel, James H. Hoyt and Harvey D. Goulder.

A few of the boats along the river are fitting out for the season. It is noticed that most of them are the property of one or the other of the ore shipping concerns, few, if any, of the general vessel owners having men at work upon their craft. Whether the line thus drawn is intentional or indicative is a question. It may signify nothing more than the extraordinary eagerness of the shippers to get their boats out, which does not at all apply to the independent vessel owners, who are more or less put out by the unusally early opening of the season of navigation. The Pittsburg Steamship Co., of course, has had its engineers at work for a month and a half getting the engines and boilers in shape. Other companies are putting men to work now with an eye to having their boats in trim when needed. Many of these boats are ready for the season's business. The apathy of the individual owners may be accounted for by the fact that the opening is still a couple of weeks away, at least, and they will have plenty of time to fit out by commencing later on. Then, too, some of the boats were fitted out last fall when they were laid up for the winter, and it will require but a couple of days' work to put them in shape for service.

The vessel owners held a meeting on Wednesday in the office of the Pittsburg Steamship Co. on the question of wages for the firemen during the coming year. The Pittsburg Steamship Co. had received a communication from firemen asking that their pay be fixed at $50 per month throughout the year. They wanted to make no provision for the possibility of a change hereafter. The Pittsburg Steamship Co. was disposed to accept the terms, but did not wish to bind others by the action which it might take. With that end in view its officers called in some of the vessel men of the Perry-Payne building to talk over the situation. The Pittsburg people were in a hurry to get the matter adjusted. Capt. Gilchrist was the president of the meeting. He advised his colleagues to move slowly in this matter, and that a committee of the Lake Carriers' Association be called together to discuss the question before any action should be taken. The Pittsburg Steamship people were impatient, and asked that action be taken at once. After a discussion of the various phases of the question it was at length decided that those who were present should consent to the arangement, but that formal ratification of the action must come from the Lake Carriers' Association. Thus the meeting closed.

PORT HURON.

Special Correspondence to The Marine Record:

Extensive repair work is being done on the steamers A. A. Turner and Maine at Saginaw.

The barge J. R. Edwards was towed out of Black river on Thursday afternoon by the ferry Omar D. Conger.

The cabin of the steamer Douglas, now at Detroit, is to be removed and the craft converted into a single-decker for coarse freight trade.

Capt. W. E. Rice, custodian of the harbor of refuge at Harbor Beach, gives it as his opinion that navigation is now open from Port Huron to Mackinac.

Robert Thompson gives it as his opinion that navigation will be open by April 1. He says that with the present weather the ice in the lakes will soon disappear.

The boats and wrecking apparatus of the McMorran Wrecking Co. are being placed in first class condition so as to be ready for work as soon as navigation opens.

Capt. A. B. Slyfield has purchased of C. O. Duncan and Charles Evling their two-thirds interest in the steamer T. D. Stimson, for $11,500. Captain Slyfield is now the sole owner of the boat.

W. D. Smith says that during all the 36 years of his residence at the north end, there never was a first of March before when you could not see a bit of ice or snow in lake or river, up or down, look where you would, as was the case this year.

On Tuesday afternoon large delegations of marine engineers will come to this city from Detroit and Marine City. The local lodge will banquet the visitors at the Lauth hotel. A meeting will follow which will be of interest to all marine engineers.

John E. Mills, who has been in Detroit for the past two weeks, will return home this week. The doctors have been able to save one of his eyes. Mr. Mills considers himself lucky as the doctor told him if he had waited another month he would have been totally blind.

Port Huron lodge, F. & A. M., will hold a meeting on Thursday evening of this week at which time the sailors of the city will be entertained. It is expected that this will be the last meeting of the season at which the Masons who follow the lakes will be able to be present.

The steamer Argonaut is in Dunford & Alverson's drydock, receiving an overhauling. A large number of boats at this port are awaiting an opportunity to get into the dock. The indications are that many minor repairs will be made to the boats before navigation opens.

Deputy Collector of Customs W. R. Chadwick, who has charge of the vessel transfers at the customs house, says but very few vessels in the Huron district are changing hands at the present time. In fact Mr. Chadwick says there have been but very few inquiries at his office.

Madden & Donnelly, of Saginaw, have sold the steamer E. A. Shores to the Lake Shore Sawmill Co., of Cleveland, for $35,000, and she is to be commanded by Capt. L. E. King, of the latter city. The Shores is moored at the Davidson shipyard in Bay City for a general overhauling.

The Sheboygan-Port Huron Salt Transportation Co., has been incorporated to operate the steamer John Oades, purchased a few days ago from the Parkers, of Detroit. The incorporators are Peter Reiss, Gus Huette, and John R. Reiss. The boat will carry salt from the Port Huron Salt Works.

Capt. McArthur, of the steamer Italia, is of the opinion that navigation will open early this year. Last season the captain's boat was about the first one to arrive down from Chicago and was fast in the ice in Lake Huron for several days. After plowing her way through the ice and reaching the river, the steamer and its tows were laid up for seven days near Dunford & Alverson's drydock. Capt. McArthur says that the early opening of navigation will have a bad effect upon freight rates.

Simon Langell, the St. Clair vessel builder, spent Wednesday afternoon in Port Huron. Mr. Langell says that a large number of men are employed getting the ground ready for the Columbia Iron Works. He is of the opinion that it will take nearly all summer before the works are in running order.

The steamer Harlem was towed up Black river to the yards of the Jenks Ship Building Co. on Friday afternoon. It is expected that numerous changes will be made in the boat so as to permit of the carrying of iron ore. It is expected that the boat will be ready for service at the opening of navigation.

Capt. Robert P. Thompson returned from Bay City on Tuesday, where he has been on business in connection with his tug and wrecking work. He says that the ice around Saginaw Bay and vicinity is melting away in the same manner at this place and predicts an early opening for navigation. At Davidson's shipyard, he states, there are two barges ready to be launched at the opening of navigation.

A friend of Charles D. Thompson said this week: "The arrest of Wednesday took a great load from M. Thompson's shoulders. He has worried a great deal since his confession some time ago and the reports that he was about to be arrested have given the family considerable uneasiness. Now that the matter is all over and he has been admitted to bail he feels like a new man. It may be six months and it may be six years before the case is finally disposed of in the courts."

Suit has been commenced in the circuit court by James V. Stewart and Mary E. Stewart against Henry F. Botsford, William F. Botsford and the Lucy Sanborn estate. The suit grows out of the tangle in the business of the Wolverine dry dock and an accounting has been asked for by the plaintiffs. The late Judge Whipple was guardian of the plaintiffs. It is contended by them that Henry F. Botsford has failed to make an accounting of the business of the dock.

John W. Thomson received word on Thursday that the boats of the Anchor Line and Lake Superior Transit Co. would not stop at this port during the coming season. There are probably twenty boats in the two lines and they have stopped at this port for the past twenty years. Mr. Thomson says it will be a considerable loss to the city, especially to the ice men, coal men, merchants, dry-docks and ship yards. The companies give no reason for their decision and an effort will be made to bring about a reconsideration of the order.

The keel of the new lighter to be built by the Jenks Ship Building Co., for the American Wrecking Association was laid on Tuesday. At the present time the company has three boats on the stocks and one just launched, all of which will keep the men busy for a long time to come. The shell of the government light-house supply boat has been finished and work on the other boats is progressing rapidly. F. C. Cheesebrough of Bay City, the owner of the boat launched Saturday, has given the Jenks Ship Building Co. a contract for building a small steel yacht, fifty feet long.

Albert D. Bennett, of Port Huron, has begun suit to recover $5,000 damages for alleged breach of contract by Thomas McGowan, Elizabeth McGowan, Allen L. Nowling and John Cornwall, of Detroit. He claims that they chartered his tug W. B. Castle for the season of 1001 for $1,500, which sum, he says, they have not paid. He also says they failed to return the tug to him at Port Huron in good condition, as agreed. He further states that they failed to pay for the insurance, labor and other expenses according to their contract. He charges them with retaining the tug 16 days after their contract had expired. He wants $500 for the alleged overtime.

H. B. Buckeridge, after reading an account of the opening of navigation on Lake Huron for the past twenty-two years said: "I can distinctly remember in 1882 when the steamer Flora attempted to make her first trip to Mackinac. There was on board of the boat a number of Port Huron gentlemen, including Frank Hamilton, Edward F. Percival and myself. We were stuck in the ice for several days. One night Mr. Hamilton and myself concluded to play a practical joke on Mr. Percival. We hired a deckhand for a dollar to assist at the pumps. We then went to Mr. Percival's berth and informed him that the boat had sprung a leak and that it would be necessary for all hands to turn in and save the vessel. Percival was set to work with the deckhand at an old pump which had not been in use for years. After working four hours he was told of the joke and a madder man was never seen aboard of a boat or on the shores of Lake Huron."

D. H. Metcalfe, ex-President of the Montreal Corn Exchange, who has returned from a trip to the West, says that millions of bushels of wheat will be shipped from Western Canada to the European markets, via the St. Lawrence route as soon as navigation opens. The Canadian Pacific railway, owing to the shortage of days has not been able to bring out the wheat as fast as it has been offered to dealers by farmers, with the result that there is a serious congestion of grain in the West. It will be all the transportation companies can do to move out the balance of last season's crop before the new grain is ready for the market.

MARINE COOKS.

An important meeting was that of Toledo local of Marine Cooks' Association of the Great Lakes, held on Tuesday. The constitution and by-laws framed at the conference held in Cleveland, in February, and which had been forwarded to the national officers for endorsement, were read at the meeting of the local. They proved satisfactory to the national heads of the association, and were accepted by a vote of the local.

The preamble of the constitution reads: "We, the Marine Cooks' Association of the Great Lakes, having thoroughly learned the value of organization believe that whatever rights belong to one member belong to all alike, as long as they are in good standing in the association, irrespective of creed or color, and that every member should receive a just and fair remuneration for his labor. Recognizing the above as our inalienable rights, we are conscious of corresponding duty to those in command, our employers, the country in which we live, and to assist other organizations when possible in the attainment of their just demands. In furtherance of these principles and in the desire to regulate our conduct as an association and individuals, so as to make the culinary art what it has a right to be, one of the most honored of professions, we have formed the Marine Cook's Association."

The constitution provides that a general advisory board, consisting of one member from each local on the Great Lakes, shall be established as an official head. Death and shipwreck benefits are provided. One must have served two years as cook before being eligible to membership. The wage scale for cooks on tugs and river craft is set ta $50 a month. The advisory board will make the scale for outgoing vessels.

The initiation fee will be $3 until July 1, when it will be raised to $5 for first-class cooks and $2 for second class cooks and porters.

The delegates of the union will present themselves at the next meeting of the C. L. U.

Three suspended members were reinstated in the union last night and several candidates initiated. The union will meet every Sunday evening at Toledo until navigation opens.

◆

ASBESTOS COVERINGS.

The W. H. Johns-Manville Co. have secured a number of contracts for the installation of their materials recently, among which are the following.

The Hygeia Refrigerating Co., Elmira, N. Y., where a complete line of insulation with Fire Felt Covering is being installed.

The modern hospital maintained by Messrs. Arnot-Ogden is being fitted up with Asbestos-Sponge Moulded Covering.

The Lestershire Mfg. Co., Endicott, N. Y., which will be the largest tannery in New York state when completed, is being installed with H. W. Johns-Manville Co.'s Asbestocel Coverings. Endicott, N. Y., is situated about nine miles from Binghamton, and during the past month arrangements for the erection of 350 homes and two other large factories have been completed.

The St. Louis branch of the company reports an order for the Wm. J. Lemp Brewing Co., of St. Louis, whose entire boiler plant is being remodeled and the new boilers will be covered with Asbestos-Sponge Felt. A special feature of the work at the J. Lemp brewery will be the Asbestos-Sponge fittings which will be of a sectional nature and the entire work will cost in the neighborhood of $3,000. This branch of the company now has under way the covering of the pipes in the power house of the St. Louis Transit Co., Second and Salisbury streets, the covering used being Asbestos-Sponge Felt also. The last order received from the St. Louis Transit Co. was for the application of Asbestos-Sponge Felt in the power house at Park and Vanderventer avenues. The total cost of these two power plants will be close on to $30,000.

The New Orleans branch of the company report having received a contract from the Tenn. C. I. & R. R. Co., for covering steam pipes in connection with their rail mill plant at Ensley, Ala., of which the main steam pipe is 24 inches in diameter 354 feet long; 120 feet by 20 inches; 120 feet by 8 inches; 1060 feet by 6 inches; 60 feet by 5 inches; 650 feet by 4 inches; 141 feet by 3 inches; 141 feet by 2½ inches; 36 feet by 2 inches, together with fittings. This branch also secured a contract from Armour & Co., for covering brine, steam, exhaust and hot water pipes from ten inches to one inch. They are now working on contracts for T. & P. Railroad Co., grain elevator, Westwego, for covering five Scotch boilers with 1½ inch moulded blocks, ½ inch cement and canvas.

◆

THE TREASURY BUREAU OF STATISTICS OF THE UNITED STATES has just issued a very useful volume giving particulars of the world's great ship canals. These are nine in number. The Suez canal, begun in 1859 and completed in 1869. The Cronstadt and St. Petersburg canal, begun in 1877 and completed in 1890. The Corinth canal, begun in 188[illegible] and completed in 18[illegible]. The Manchester ship canal, completed in 1894. The Kaiser Wilhelm canal, connecting the Baltic and North Seas, completed in 1895. The Elbe and Trave canal, connecting the North Sea and Baltic, opened in 1900. The Welland canal, connecting Lake Erie with Lake Ontario. The two canals, United States and Canadian, respectively, connecting Lake Superior with Lake Huron. These canals play a most important part in the world's commerce.

THE GIST OF LAKE, RIVER AND HARBOR IMPROVEMENTS ASKED FROM THE FIRST SESSION OF THE. 57TH CONGRESS.

Improving harbor at Cape Vincent, N. Y. Continuing improvement, $48,000.

Oswego, N. Y., continuing improvement and for maintenance, $51,000.

Great Sodus Bay, N. Y., for maintenance, $5,000.

Little Sodus Bay, N. Y., continuing improvement by extending the east pier and for maintenance, $25,000.

Charlotte, N. Y., continuing improvement and for maintenance, $30,000.

Wilson and Oak Orchard, N. Y., continuing improvement and for maintenance, $4,500.

Olcott, N. Y., continuing improvement, $15,000.

Tonawanda Harbor and Niagara river, continuing improvement, $257,700, including the dredging of Tonawanda harbor.

Improving harbor at Erie, Pa., continuing improvement, $150,000.

Dunkirk, N. Y., continuing improvement and for maintenance, $25,000.

Buffalo Harbor, N. Y., for maintenance and for removal of rock in the entrance below the junction of Buffalo river and the City Ship canal, $30,000.

Lake Erie entrance to Black Rock Harbor and Erie Basin, N. Y., in accordance with the report submitted in House Document numbered one hundred and twenty-five, Fifth-sixth Congress, second session, $200,000. Provided, That a contract or contracts may be entered into by the Secretary of War for such materials and work as may be necessary to complete the said improvement, to be paid for as appropriations may from time to time be made by law, not to exceed in the aggregate $614,643 exclusive of the amount herein appropriated.

Conneaut harbor, O., continuing improvement and for maintenance, $200,000. Provided, That a contract or contracts may be entered into by the Secretary of War for such materials and work as may be necessary for the prosecution of the approved project, to be paid for as appropriations may from time to time be made by law, not to exceed in the aggregate $250,000, exclusive of the amounts herein and heretofore appropriated.

Ashtabula harbor, O., continuing improvement and for maintenance, $135,000.

Fairport, O., continuing improvement and for maintenance $200,000.

Cleveland, O., for maintenance and continuing improvement in accordance with the report submitted by the Chief of Engineers in his report for 1899, on page 3,057, et sequentes, $125,000. Provided, That the Secretary of War may, in his discretion, dredge to a depth of twenty-five feet in any portion of said harbor, and so much of said amount as may be necessary may be used for dredging between Government piers.

Improving said harbor in accordance with the report sumbitted in House Document numbered one hundred and eighteen, Fifty-sixth Congress, second session, by providing a safer and better entrance at the main entrance to the breakwater in said harbor, and by the construction of a new breakwater, $500,000. Provided, That a contract or contracts may be entered into by the Secretary of War for such materials and work as may be necessary for prosecuting said project, to be paid for as appropriations may from time to time be made by law, not to exceed in the aggregate $2,300,000, exclusive of the amounts herein and heretofore appropriated. Provided further, That the Secretary of War may, in his discretion, construct said breakwater under the last named project either of stone or of timber cribs with superstructures of concrete, as described in said document, and the center line of such new breakwater shall be constructed upon the prolongation of the center line of the main portion of the existing breakwater, and there shall be no further extension of the deflected portion of the east breakwater beyond which has already been constructed.

Black river, O., for repairs and maintenance, $6,000.

Huron, O., for maintenance, $25,000.

Sandusky harbor, O., in accordance with the report submitted in House Document Numbered one hundred and twenty, Fifty-sixth Congress, second session, $125,000.

Port Clinton, O., continuing improvement, $5,000.

Toledo, O., for maintenance, $15,000.

The Secretary of War is authorized to cause to be purchased or built a suitable dredge, for use in the improvement and maintenance of the harbors upon Lake Erie, at a cost not to exceed $175,000, to be paid for from appropriations made or authorized for the harbors mentioned in this paragraph, and in amounts not exceeding those hereafter mentioned, namely: From the amount authorized to be expended for improving the harbor at Toledo by providing a straight channel through Maumee river and bay under the River and Harbor Act of March 3, 1899, $40,000; from the appropriation for Sandusky, $40,000; from that for Cleveland, $40,000; from that for Fairport, $25,000; from that for Ashtabula, $20,000; from that for Conneaut, $10,000; and in case the total expense of said dredge shall be less than $175,000, a proportional reduction shall be made from the amounts to be charged to each of said harbors.

Improving inner and outer harbors at Michigan City, Ind.: Continuing improvement and for maintenance, $63,000.

Improving harbor at Waukegan, Ills.: Continuing improvement, in accordance with the report submitted in House Document numbered three hundred and forty-three, Fifty-sixth Congress, first session, $100,000: Provided, That a contract or contracts may be entered into by the Secretary of War for such materials and work as may be necessary to complete the project recommended in said report, to be paid for as appropriations may from time to time be made by law, not to exceed in the aggregate $245,000, exclusive of the amounts herein and heretofore appropriated.

Improving Calumet Harbor, Ills.; The Secretary of War is hereby authorized, in his discretion, to amend the project for the improvement of Calumet Harbor by substituting in place of the north and south breakwater therein proposed an extension of the east and west breakwater from the eastern end thereof, not to exceed two thousand five hundred feet in a southeasterly direction: Provided, That the whole cost of the said improvement shall not exceed the amount named in the River and Harbor Act of March 3, 1899. .

Sandbeach, Mich., for maintenance, $7,500.

Cheboygan, Mich., in accordance with the report submitted in House Document numbered six hundred and thirty-six, Fifty-sixth Congress, first session, $8,000.

St. Joseph Harbor and River, Mich., for maintenance, $24,000.

South Haven, Mich., for maintenance, $12 000.

Saugatuck Harbor and Kalamazoo River, Mich., for maintenance, $15,000.

Holland (Black Lake), Mich., continuing improvement and for maintenance, $73,000 of which not to exceed $5,000 may, in the discretion of the Secretary of War be used to dredge a channel through the bar in Black Lake near the entrance thereof.

Muskegon, Mich., in accordance with the report submitted in House Document numbered one hundred and four, Fifty-Sixth Congress, second session, $75,000.

Grand Haven, Mich., continuing improvement, $10,000, of which amount $2,000 may, in the discretion of the Secretary of War, be used in dredging up to Spring Lake Harbor.

Ludington, Mich., continuing improvement and for maintenance and repairs, $75,000: Provided, That a contract or contracts may be entered into by the Secretary of War for such materials and work as may be necessary for the completion of said project in accordance with the report submitted in House Document numbered two hundred and seventy-three, Fifty-fourth Congress, second session, to be paid for as appropriations may from time to time be made by law, not to exceed in the aggregate $165,000, exclusive of the amounts herein and heretofore appropriated: Provided further, That so much as may be necessary of the funds herein appropriated, or remaining on hand from former appropriations, may, in the discretion of the Secretary of War, be expended for extending the revetment on the north bank of the channel, east of the life-saving station, five hundred and eighty-eight feet.

Manistee, Mich., completing improvement and for maintenance, $42,000.

Portage Lake, Mich., continuing improvement and for maintenance, $59,000.

Frankfort, Mich., completing improvement and for maintenance and repairs, $54,500.

Charlevoix and entrance to Pine Lake, Mich., continuing improvement, $20,000, to be first expended in obtaining a uniform depth of channel from Lake Michigan to Pine Lake.

Petoskey, Mich., continuing improvement and for maintenance $15,000, and the Secretary of War is hereby authorized to change or modify existing plans: Provided, That the total of expenditure shall not exceed the amount estimated to complete under the existing project.

Grand Marias, Mich., continuing improvement, $70,000.

Marquette, Mich., continuing improvement and for maintenance, $26,000: Provided, That a contract or contracts may be entered into by the Secretary of War for such materials and work as may be necessary for the completion of said project, to be paid for as appropriations may from time to time be made by law, not to exceed in the aggregate, $80,000, exclusive of the amounts herein and heretofore appropriated.

Ontonagon, Mich., for maintenance $5,000.

Menominee Harbor and River, Mich., and Wis., continuing improvement, $20,350.

Pentwater and White Lake, Mich., continuing improvement, $35,000.

Racine, Wis., for maintenance and further improvement, $20,000, and the Secretary of War is hereby authorized to change or modify the existing project in his discretion, and to make a survey with a view to the protection of the harbor against northeast storms.

Kenosha, Wis., for maintenance and further improvement, $5,000, and the same authority is given to the Secretary of War as stated in the preceding provision for Racine.

Milwaukee, Wis., including harbor of refuge, for maintenance, $232,500, of which amount not to exceed $150,000 may be expended for the maintenance, rebuilding, and repair of the breakwater belonging to the harbor of refuge.

Ahnapee, Port Washington and Oconto, Wis., continuing improvement, $14,000.

Sheboygan, Wis., for maintenance and for improving said harbor in accordance with the report submitted in House Document numbered three hundred and twenty-seven, Fifty-fourth Congress, second session, and for completion of the project adopted March 3, 1899, $90,000.

Manitowoc, Wis., for maintenance, $8,000; for improving said harbor in accordance with the report submitted in

House Document numbered two hundred and thirty-three, Fifty-sixth Congress, first session, by the extension of the breakwater four hundred feet, $37,000: Provided that the Secretary of War shall cause to be made a survey of Manitowoc harbor and river, with an estimate of the cost of improving the same, so as to make the same more available as a harbor of refuge, by the construction of two or more turning basins in said Manitowoc river between the upper and lower bridges of the Wisconsin Central Railway Co., each of a depth of not less than twenty-one feet and of as great a width as is deemed feasible, together with a safe and convenient channel of sufficient width and not less than twenty-one feet in depth, from said turning basins to the entrance of Manitowoc harbor.

Two Rivers, Wis., continuing improvement and for maintenance, $20,000.

Kewaunee, Wis., for maintenance, $11,000.

Green Bay, Wis., for maintenance and for improvement in accordance with the report submitted in House Document numbered two hundred and thirty-two, Fifty-sixth Congress, first session, with a view of obtaining a channel twenty feet deep from the mouth of Fog river to the City of Green Bay, $105,600.

Sturgeon Bay and Lake Michigan Ship Canal and harbor of refuge connected therewith, for maintenance and continuing improvement in accordance with the project for deepening the same to eighteen feet, submitted in House Document Numbered one hundred and seventeen, Fifty-sixth Congress, second session, $44,000: Provided, That a contract or contracts may be entered into by the Secretary of War for such materials and work as may be necessary to complete said project, to be paid for as appropriations may from time to time be made by law, not to exceed in the aggregate the sum of $178,000, exclusive of the amounts herein and heretofore appropriated.

Ashland, Wis., continuing improvement and for maintenance, $40,000.

Portwing, Wis., in accordance with the report submitted in House Document numbered one hundred and fourteen, Fifty-sixth Congress, first session, for a harbor of refuge, $25,000: Provided, That no part of said sum shall be expended until the title of the land necessary for the establishment of said harbor, according to said report, shall have been properly and legally conveyed by or through the authorities of Portwing to the United States government.

Harbor at Duluth, Minn., and Superior, Wis., continuing improvement and for maintenance, $275,000, of which not less than $100,000 shall be expended in prosecuting the work of rebuilding the piers at the Wisconsin entry of said harbor, and $143,000, or so much thereof as may be necessary, may, in the discretion of the Secretary of War, be expended for the construction or purchase of a dredging plant.

Grand Marais, Minn., for maintenance, $2,000.

Agate Bay, Minn., for maintenance, $2,000.

Improving Detroit River, from Detroit to Lake Erie, in accordance with the report submitted in House Document numbered seven hundred and twelve, Fifty-sixth Congress, first session, and designated as "Plan A," $500,000, of which amount the Secretary of War may expend $10,000 in the said river north and west of Grosse Isle for the deepening of the channel to Wyandotte, Mich.: Provided, that a contract or contracts may be entered into by the Secretary of War for such materials and work as may be necessary to prosecute said project, to be paid for as appropriations may from time to time be made by law, not to exceed in the aggregate, $1,250,000, exclusive of the amounts herein and heretofore appropriated.

Improving Saint Clair Flats Canal, in Lake Saint Clair, in accordance with the report submitted in House Document numbered two hundred and thirty-four, Fifty-sixth Congress, second session, $330,000.

Improving Black River, at the mouth, and Rouge River, Mich., for maintenance, $7,500.

Improving Saginaw River, Mich., continuing improvement and for maintenance, $50,000: Provided, That one-half of said amount may be expended above and one-half below the county line between Saginaw and Bay counties, and of the amount to be expended above said county line the Secretary of War may expend, in his discretion, not to exceed $5,000, from the amount herein appropriated, for improvement above the Saginaw county line, in dredging Shiawassee and Bad rivers up as far as Saint Charles, in accordance with House Document numbered one hundred and thirty-five, Fifty-fifth Congress, second session.

Improving Middle and West Neebish channels, Saint Mary's River, Mich., in accordance with the report submitted in House Document numbered one hundred and twenty-eight, Fifty-sixth Congress, second session, $500,000: Provided, That a contract or contracts may be entered into by the Secretary of War for such materials and work as may be required to prosecute said project, to be paid for as appropriations may from time to time be made by law, not to exceed in the aggregate, $4,000,000, exclusive of the amounts herein appropriated and heretofore appropriated for the improvement of Hay Lake channel. And the Secretary of War is authorized, in his discretion, to first complete the work on said channel between Hay Lake and Mud Lake.

The unexpended balances remaining from appropriations for Saint Mary's river at the falls shall be expended as follows: Twenty thousand dollars, or so much thereof as may be necessary, at the Sailors' Encampment, with a view to avoid collisions and groundings at that point; $25,000, or so much thereof as may be necessary, to pay the salaries and expenses of the commission created by section four herein; of the remainder, a sufficient amount may be expended for the completion and further improvement of the Saint Clair Flats Canal heretofore referred to and described in House Document numbered two hundred and thirty-four, Fifty-sixth Congress, second session. The balance remaining after the diversions above set forth shall be expended for the widening and improvement of the Saint Mary's Falls Canal above the locks, in accordance with the project sumbitted in House Document numbered one hundred and twenty-eight, Fifty-sixth Congress, second session. The provision of section four of the Act approved June 6, 1900, entitled, "An Act making provision for emergencies in river and harbor works, and so forth," giving authority to divert from the fund herein described an amount not exceeding $100,000 to restore and make available a channel formerly used through Lake George Channel, is hereby repealed.

Improving Fox River, Mich., continuing improvement, $125,000, of which $100,000, or so much thereof as may be be necessary, may, in the discretion of the Secretary of a dredging plant.

Improving Fox River, Wis.,continuing improvement, $70,000, of which amount $40,000, or so much thereof as may be necessary, may, in the discretion of the Secretary of War, be expended in the construction or purchase of a suitable dredge; and $5,000, or so much thereof as may be necessary, shall be used in dredging Calumet harbor and further the Stoc bridge harbor of refuge on the east shore of Lake Winnebago, Wis.; and $10,000, or so much thereof as may be necessary, shall be used to remove bars and snags from, and to otnerwise improve Wolf river, Wis., and for dredging and otherwise improving Miller Bay on the west shore of Lake Winnebago, Wis., for the purpose of making it more available as a harbor of refuge.

Improving Illinois River, Ills., continuing improvement, $75,000.

Improving Calumet River, Ills. and Ind., continuing improvement, $75,000: Provided, That said amount, or so much thereof as may be necessary, shall be applied in dredging to a depth of twenty feet from where said depth now exists up to One Hundred and Twenty-second street, in the city of Chicago, and to a depth of sixteen feet from said One Hundred and Twenty-second street up to the forks of said river, and from the forks of said river to a depth of ten feet up to a point one-half mile above Hammond, in the state of Indiana, and an examination shall be made with a view to securing a navigable channel of twenty-two feet from the mouth of said river to One Hundred and Sixth street, in the city of Chicago, and twenty feet from One Hundred and Sixth street to One Hundred and Twenty-second street, including also the old channel of the river between One Hundred and Thirteenth street and One Hundred and Sixteenth street, and sixteen feet from One Hundred and Twenty-second street to the forks of said river, and ten feet from the forks of said river to a point one-half mile above Hammond, in the state of Indiana. And the Secretary of War is hereby authorized to accept, in his discretion, deeds from the proper parties conveying to the United States, free from expense, such lands as may be necessary to make a proper channel two hundred feet in width from the forks of said river up to a point one-half mile above Hammond, in Indiana, and releasing, to the satisfaction of the Secretary of War, the United States from all liability for damages to adjacent property owners.

Improving Chicago River, Ills., continuing improvement, $306,457: Provided, That the sum of $193,543, unexpended balance of money heretofore appropriated for the improvement of the Chicago river, making the total sum $500,000, may be used in the improvement of said river by constructing turning basins of proper size in said river, said turning basins to be located by, and said money expended under the direction of, the Secretary of War.

CANADIAN capitalists have finally secured control of the iron and steel industries at Sydney, Cape Breton, and will hereafter conduct those enterprises exclusively in the interest of Canadian capital and labor. Mr. Whitney and other United States capitalists, who started the Dominion Iron & Steel Works, sought to identify the development of Cape Breton with the United States Steel Corporation, but the Canadian interests insisted on an independent attitude, and finally won the day. The result is the withdrawal of Mr. Whitney and his American manager in favor of Mr. Jas. Ross, of Montreal, and a Canadian manager. The Dominion Iron and Steel and Coal Companies will be amalgamated and worked as one concern.

THE LONDON ENGINEER says that the permanent magnetic movements of a number of specimens of steel made at the Resitza Iron Works of the Austro-Hungarian Railway have been experimented on by Herr A. Abt. The collections of steels comprises ten carbon steels, two manganese steels, six steels with a specially high percentage of manganese, six chromium steels, six tungsten steels, two nickel steels and two nickel-chromium steels. The magnetic movement reaches a maximum with a magnetizing current of 20 amperes, but the maximum in the case of the strong manganese steels is already attained with 10 amperes. The latter also has the smallest permanent magnetic moment. The highest permanent magnetism is shown by the nickel-chromium steel. One brand of manganese steel containing much manganese shows no permanent magnetism at all.

SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLABORATED SPECIALLY FOR THE MARINE RECORD.)

Admiralty Jurisdiction—Maritime Contracts.—Action for Brokers' Commission.—A contract embodied in the charter of a vessel, executed by brokers on behalf of the owners to pay a commission to the brokers for procuring the charter, is not maritime, and a court of admiralty has no jurisdiction of an action thereon, Brown et al ve. West Hartlepool Steam Nav. Co., 112 Fed. Rep. (U. S.) 1018.

Clearance of Vessel—Nature of Shipment.—While it may be the duty of a common carrier receiving freight for transportation by rail and beyond the seas ordinarily to provide for the clearance of the vessel in which the goods are to be shipped, the shipper cannot complain of failure to obtain such clearance when it is prevented by the nature of the shipment. Farmers' Loan Trust Co. vs. Northern Pac. R. Co. (American Trading Co., Invervener.) 112 Fed. Rep. (U. S.) 829.

Admiralty—Proceeding in Rem for Collision—Persons Bound by Decree!—A decree in a proceeding in rem in admiralty against a ship for collision, in which no arrest of the vessel was made and advertsed, but her owners appear voluntarily, is not binding upon her cargo owners, who were not parties, and is therefore not admissible in their behalf to establish the fault of the ship in an action subsequently brought by them against her. The Harrogate, 112 Fed. Rep. (U. S.) 1019.

Common Carriers—Goods—Delay—Contraband of War.—The receiver of a railroad company having a contract with a Pacific steamship company for interchange of traffic accepted a quantity of pig lead to be carried to Japan, and received the freight therefor, delivering to the shipper a bill of lading "subject to delay." The lead was forwarded to Tacoma, and seasonably put on board a steamship about to sail for Japan, when the deputy collector refused to clear the vessel with the lead on board, as contraband of war, China and Japan then being at war. The lead was therefor unloaded and left, and was not delivered at Japan until its value there was considerably reduced. Held, that the receiver was not liable for the damage resulting from such delay. Farmers' Loan & Trust Co. vs. Northern Pac. R. Co. (American Trading Co., Intervener.) 112 Fed. Rep. (U. S.) 829.

CLAIMS FOR DESTRUCTION OF THE MAINE.

The Spanish Treaty Claims Commission on March 6, for the purposes of demurrer, rendered a decision that the survivors of the destruction of the battleship Maine in Havana harbor and the heirs of those who were killed have no claims against the "Spanish Government" which the commission can adjust. Commissioner Chambers rendered a dissenting opinion. The important features of the opinion of the Commission are as follows:

"Individual claims of citizens of one nation against the government of another nation for redress of injuries do not arise in favor of the officers and seamen of a ship of war, who receive such injuries in the line of duty. The claim against the foreign government is wholly national, and all injuries to such officers and seamen are merged in the national injury, and they can only look to their own government for such remuneration as it may choose to give to them. A seaman injured by the explosion which destroyed the battleship Maine, in the harbor of Havana, Cuba, on February 15, 1898, had no individual claim against Spain, even if that government was responsible to the United States for the explosion." Mr. Chambers in his dissenting opinion says: "A sailor has the same right any other citizen has to claim indemnity for wrong done by foreign governments in time of peace. There can be a national claim without individual interest or connection, but the individual necessarily involves the national character. The affront is to the nation while the actual loss or physical injury is to the citizen. The amount of damages which the offended nation claims against the offending nation depends upon the character and extent of the injuries done to the individual, but the recovery itself is in the name of the nation. The foreign government asks no acknowledgement, requires no acquittance from the injured citizen. The two nations have dealt as principals. In the case at bar the United States Government has released Spain of all liability for injuries which it is admitted Spain was responsible for, and has agreed on its part to adjudicate and settle all claims of every kind for indemnity that arose in behalf of its citizens for such wrongs between certain dates."

THE SECRETARY OF THE NAVY has finally approved the majority report of the Board of Construction in the matter of the total abandonment of both the above-and-below-water torpedo tubes on all large vessels to be constructed for the navy. None of the new ships recently contracted for will be provided with torpedo tubes of any description, notwithstanding the strong arguments made by Rear Admiral Bradford, chief of the Bureau of Equipment, in favor of keeping the under-water tubes. Admiral Bradford submitted a minority report on the subject in which he argued that under-water tubes should be provided to all new ships because of their undoubted moral effect upon an enemy and because the same reasons which made it wise to do away with the above-water tubes do not apply to those under the water. The Secretary, however, approved the majority report.

MARINE RECORD

DEVOTED TO NAVIGATION, COMMERCE, ENGINEERING AND SCIENCE.
ESTABLISHED 1878.

PUBLISHED EVERY THURSDAY BY
THE MARINE RECORD PUBLISHING CO.
Incorporated.

C. E. RUSKIN.....................................Manager
CAPT. JOHN SWAINSON..............................Editor

CLEVELAND, Vestern Reserve Building.
CHICAGO. Royal Insurance Building.

SUBSCRIPTION.
One copy, one year, postage paid...................$2.00
One copy, one year, to foreign countries...........$3.00
Invariably in advance.

ADVERTISING.
Rates given on application.

All communications should be addressed to the Cleveland office,
THE MARINE RECORD PUBLISHING CO.
Western Reserve Building, Cleveland, O.

Entered at Cleveland Postoffice as second-class mail matter.

No attention is paid to anonymous communications, but the wishes of contributors as to the use of their names will be scrupulously regarded.

CLEVELAND, O., MARCH 20, 1902.

THE TRANSPORTATION AND CARE OF CHRONOMETERS.

BY MR. JAMES PAGGE, IN THE U. S.. MONTHLY WEATHHER REVIEW.

The rate of a chronometer aboard ship is subject to many disturbing influences, among those of prime importance being the variations of temperature, the great moisture of the air at sea, and, under certain exceptional circumstances, magnetic effects. The variations of the atmospheric pressure, the motion of the vessel, the changes in the molecular structure of the metal composing the mechanism, the gradual thickening and increasing impurity of the lubricating oil, may likewise be mentioned as disturbing causes, though in a subordinate degree. The captain of a vessel is thus justified in relying upon the accuracy of a chronometer only so far as he is successful in wholly eliminating these disturbing effects, or in reducing them to such an extent that they may be disregarded.

The transportation of the chronometer from the observatory or shop to the ship should be entrusted only to a responsible person, and, if possible, to one who is accustomed to handling delicate instruments. Before lifting the chronometer, the bowl should be made fast by setting the stay, and the latter should be clamped with sufficient firmness to obviate any possibility of its becoming loose during transit. While en route the chronometer should be so held that its face remains perfectly horizontal, and great care should be exercised to avoid any twisting motion, as a motion of this sort, if it be in such a direction as to suddenly increase the length of the arc through which the balance swings, often has the effect of carrying the pallet past two teeth of the escapement, instead of past one, as intended, causing the second hand to register two half seconds, instead of one; and this process will be repeated several times in succession, or until such time as the balance wheel returns to its normal swing. If, on the other hand, the twist be in such a direction as to diminish the arc of swing, it may result in stopping the chronometer.

The utmost care should be taken to avoid shocks or rough treatment of any kind, and for this reason the chronometer should be transported by hand, and not in a carriage or street car. If, however, circumstances demand the use of a vehicle, the chronometer should be carried on the knees in order to diminish as far as possible the jolting.

The most convenient and the safest manner of transporting a chronometer is in its outer case, the cushions of the latter pressing firmly against the walls of the inner case. The custom of carrying a chronometer swung by a strap or cloth is not to be commended, in the first place because it is insecure, and in the second place because the chronometer is thus subjected to changes of temperature and to the access of moisture to a much greater degree than when inclosed in its outer case.

In order to obtain satisfactory results from a chronometer it is absolutely essential that its installation be as favorable as circumstances permit. Its position should be, as far as possible, free from shock. It should, therefore, be about amidships, and as near the center of gravity of the vessel as is convenient, but at the same time free from the jar of the machinery and the pumps and the throb of the screw. The first consideration governing the selection of the position is that it possess uniformity of temperature—above all, that it is not exposed to the alterations of the external heat and cold. The proposed position should, therefore, be carefully tested with a maximum and minimum theremometer before the final selection is made. The proximity of any artificial source of heat, such as a stove, lamp, or steam pipe, should be suitably protected from the access of moist or foul air, but at the same time should be well ventilated. It should also be reasonably remote from any dynamo-electric machine, conductors carrying heavy electric currents, and from any large masses of iron—in short from any strongly magnetic field.

If possible the chronometer should be inclosed within a specially constructed box or chest, lined with zinc and carefully soldered throughout. In order to diminish the moisture there should be placed within this chest an open dish of calcium chloride, a salt which has the property of absorbing the water vapor from the atmosphere. When the salt becomes saturated it should be removed from the chest, broken into small fragments, and gently heated for some hours, after which it is again ready for use.

If such a chest is not obtainable the chronometer should remain permanently in its outer case. The latter should be firmly screwed to a suitable support, and should be kept covered with a thick woolen cloth or blanket, which should be changed daily. The custom of keeping the unprotected chronometer in a draw which is opened to take the time is not wise.

Having installed the chronometer in the selected position, release the stay and allow the bowl to swing freely in its gimbals. The bearings of these should not be tight, nor yet too loose, but should be so adjusted as to allow the bowl gently to follow the roll of the vessel. It is highly important that the face of the chronometer remain perfectly horizontal, as a very slight inclination, if continued, will at times exercise a marked influence upon the daily rate. The question of the effect produced by a given inclination was measured in the case of chronometers Negus 725 and Negus 1262, each having a very mation of mould or rust upon the balance wheel, thereby increasing its moment of inertia. Indeed, the effect of rust upon any part of the mechanism is most deleterious, a single tiny spot on the balance spring being sufficient to alter the rate 5 seconds (losing), the effect increasing as the rust penetrates deeper and deeper into the metal.

The variations of the atmospheric pressure also exercise a slight influence upon the rate of a chronometer, an increase of 1 mm. (0.04 inch) serving in the average to retard the chronometer 0.009 second in 24 hours. The effect is therefore immaterial for the purposes of navigation.

The gradual thickening and the increasing impurity of the lubricating oil act upon the chronometer in two ways. In the first place they reduce the arc of swing of the balance wheel, which tends to slightly accelerate the rate; but in the second place they increase the friction, which tends slightly to retard it. The previous effect is, however, the predominant, and it is for this reason that chronometers which have run for several years without renewal of the oil ordinarily show a decidedly accelerated rate.

With ordinary usage chronometers need to be cleaned and re-oiled every three years. Whenever possible this task should be entrusted only to the maker of the instrument, and especially is this the case where the chronometer is equipped with an auxiliary compensation, the mechanism of which is in many cases complicated.

Every chronometer, in the course of time, alters its rate to a greater or less extent. Error and rate should therefore be redetermined at brief intervals. At ports showing a time signal this, of course, is a simple matter.

List of ports thus equipped, and descriptions of the signals, have been published upon the pilot charts. At places where no time signal exists, and where other

In order to avoid moving the hands, a chronometer which has stopped should not be started until the hour indicated by the hands has arrived. To set it in motion the chronometer should first be wound and the bowl clamped. Then, grasping the box with both hands, give it a gentle horizontal rotation of 90 degrees. If there is no hindrance this will be sufficient to establish the beat. Failure should be taken as an indication that the chronometer is in need of repair.

If for any reason it becomes nesessary to move the hands the movements should be made by means of the key, and always in a right-handed direction. A movement in the opposite direction is liable to injure the teeth of the escapement. For the same reason no attempt should be made to move the second hand, but the minute hand should be brought in agreement with it i. e., the minute hand should coincide with a division of the face when the second hand marks zero.

In dealing with the causes which exercise a cumulative effect upon the rate of the chronometer, the most important is atmospheric moisture. The effect of moisture is always to retard the chronometer, and this effect is not temporary, as is the case with that due to temperature variations, but permanent being probably due to the foruniform rate under normal conditions, by Lieutenant Moore, U. S. N. The point upon the face given by the hour marks XII, VI, IX, and III was successfully depressed nine (9) degrees below the horizontal, and the chronometer allowed to run for a fortnight in each position, the successive positions being separated by intervals of a fortnight, during which the bowl hung horizontal. Both chronometers gained in the inclined position by an amount varying from 0.5 seconds to 3.0 seconds per day, and this gain was irregular. The rates, moreover, did not return to their normal values immediately with the return of the chronometers to their normal positions, an interval of several days being necessary for their re-establishment.

Professor Peters, of the Deutsche Seewarte, has also shown that an inclination of the face amounting to 5 degrees mav alter the daily rate by as much as 7 seconds, and that continuous oscillation in the gimbals may have even a greater effect. The importance of having the bowl hang steadily in a truly horizontal position is thus evident. The adjustment of the suspension by which this is secured is readily made.

The chronometer should be wound full each day at precisely the same hour. Count the number of turns required and toward the close wind with caution. After winding restore the bowl gently to its horizontal position Never permit it to drop back.

means are lacking, the error of the chronometer should be determined by observations taken ashore with an artificial horizon, such as a dish of mercury or molasses, selecting a calm day for the purpose. The station occupied should be on the meridian of some point whose longitude is well determined, generally a lighthouse, and for this purpose the "Lists of Lights of the World," published by the Hydrographic Office, will be found useful In such observations the chronometer itself should never be carried ashore, but a hack chronometer or reliable watch should be employed.

The longitude of many of the points in the less frequented portions of the Pacific is still unsettled, and skillful navigators obliged to spend any considerable intervals at such points might profitably employ such time in longitude determinations. For the navigator equipped with a good chronometer there is no method so well adapted to this work as that of occultations, the only difficulty being that the number of occultations which occur of stars visible in a small telescope is, for any one place, limited to four or five years. With a trained observer, however, such determinations are susceptible of a high order of accuracy. Lists of occultations are published in the American Ephemeris and Nautical Almanac, and a very simple process serves to determine whether an occultation will be visible at a given point. The final computation, employing the methods recently devised, offers little difficulty. The determination of the longitude by this method, however, demands at the same time a careful determination of the latitude and of the local time.

A FRENCH COAL WASHING APPARATUS.

In European countries the continually growing scarcity of fuel has occasioned much thought and experiment in devising means to take advantage of every possible form of combustible matter coming from mines. A process has recently been perfected by a French inventor which is said to utilize the whole product. It is termed the Maurice Centrifugal Coal Washer and from the reports of Vice Consul Burroughs, at St.. Etienne, the following description of the apparatus is obtained:

The process is adapted for the treatment of coal in which slates appear so thin and so mixed with the coal that the washing thereof was considered impossible by other mechanical processes. Notwithstanding this difficulty, the result obtained has been very satisfactory; for, treating the slaty coal extracted from a mine near St. Etienne (carrying from 28 to 30 per cent. of ash and slate), this machine obtained a washed coal containing not more than nine per cent, as shown by the following:

First operation.—Two thousand eight hundred and fifty-two tons containing 30 per cent. residue gave 1,550 tons containing 9 per cent. residue and 1,302 tons containing 55 per cent residue. Second operation.—One thousand three hundred and two tons containing 55 per cent. residue gave 525 tons containing 18 per cent. residue (coal for boilers) and 777 tons slate. A machine occupying a space of 36 square feet will wash from four to ten tons of dirty coal per hour, according to quality, and requires only about three horse-power to operate.

In ordinary cases, experiments showed that the "Maurice Coal Washer" will treat all kinds of coals with the least possible expense of water and assures a larger production than any other machine, space and power considered; and that it dispenses entirely with the necessity of sizing, as it can wash coal containing a great quantity of dust, after this has been passed through a screen of one inch diameter. Further, it gives no slime and there is no loss of coal in this way. It is claimed also for this apparatus (which is operating in one of the large iron and steel works of this region) that it acts more freely on the iron pyrites than any known process. A special adaptation of the same process has been made for the treatment of auriferious sands.

THE NUMBER, GROSS TONNAGE, AND DESCRIPTION OF VESSELS ADDED TO THE REGISTER OF THE UNITED KINGDOM DURING THE YEAR 1901.

(Prepared from information supplied by the Registrar-General of Shipping.)

NEW VESSELS BUILT IN THE UNITED KINGDOM.

1901.	STEAM.								SAIL.								GRAND TOTALS.	
Month in which registered.	STEEL.		IRON.		WOOD & COMPOSITE.		TOTALS.		STEEL		IRON,		WOOD AND COMPOSITE.		TOTALS.			
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons	No.	Tons.	No.	Tons.	No.	Tons.
January	32	58,928	4	760	3	203	39	59 891	3	614	..	..	14	766	17	1 380	56	61,271
February. ..	49	125,872	2	372	2	88	53	126.332	3	3 074	..	..	11	537	14	3.611	67	129 943
March	27	72,897	..	..	10	675	37	73.572	2	2,114	1	60	14	830	17	3 004	54	76 576
April.	24	65,395	..	..	8	491	32	65 886	1	338	..	..	9	599	10	937	42	66,823
May	48	95.173	..	..	7	510	55	95,683	8	4.275	..	..	14	556	22	4.831	77	100,5'4
June........	43	79,081	2	193	14	1,369	59	80 643	2	297	..	..	21	838	23	1.135	82	81,778
July	47	127.602	2	267	9	554	58	128.423	15	1,517	..	..	10	408	25	1,925	83	130.348
August	46	103,168	1	231	10	555	57	103,954	8	527	..	..	9	607	17	1 134	74	105.088
September..	34	100,967	..	..	10	654	44	101,621	2	1 955	..	..	16	815	18	2.770	62	104.391
October.....	50	125.632	1	240	2	61	53	125,933	1	80	1	114	12	765	14	959	67	126,892
November...	40	96,157	1	242	5	183	46	96,582	3	291	..	..	7	509	10	800	56	97,382
December...	29	64,355	1	169	3	136	33	64,660	6	7,036	..	..	9	596	15	7,632	48	72,292
Total...	469	1,115,227	14	2,474	83	5.479	566	1,123,180	54	22,118	2	174	146	7,826	202	30,118	768	1,153,298

On the whole, during 1901, the steamers on the Official Register of the United Kingdom have increased by 279 vessels, and 684.961 tons, while sailing vessels have decreased by 202 vessels, and 113,916 tons. The total number of vessels on the Register has therefore increased by 77, and the total tonnage by 571,045 tons during the year.

TABLE SHOWING THE NUMBER, GROSS TONNAGE. AND DESCRIPTION OF NEW VESSELS CLASSED BY LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING DURING THE YEAR 1901.

WHERE BUILT.	STEAM.								SAIL.						GRAND TOTALS.	
	STEEL.		IRON.		WOOD AND COMPOSITE.		TOTALS.		STEEL.		WOOD AND COMPOSITE.		TOTALS.			
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
United Kingdom....	494	1,173,758	6	1,154	3	195	503	1,175,107	5	10,770	8	560	13	11,330	516	1,186,437
America, U. S. of...	7	25,770	..	....	..	....	7	25.770	..	..	..	..	..	..	7	25,770
Austria Hungary....	4	16.386	..	....	..	....	4	16.386	..	..	..	..	..	..	4	16,386
China	2	1,838	..	....	..	....	2	1,838	..	..	..	..	..	..	2	1,838
Colonies............	..	....	..	....	..	....	..	....	..	..	1	198	1	198	1	198
Denmark	2	1,870	..	....	..	....	2	1,870	..	..	..	..	..	..	2	1 870
France	..	....	..	....	..	....	..	....	4	10.991	..	..	4	10 991	4	10,991
Germany............	9	32,045	..	....	..	...	9	32,045	1	185	..	..	1	185	10	32 230
Holland..............	12	11 554	..	....	..	....	12	11.554	4	1,295	..	..	4	1,295	16	12 849
Italy	9	38,775	..	....	..	....	9	38.775	..	..	..	..	..	..	9	38,775
Japan	6	12,400	..	....	..	....	6	12,400	..	..	..	..	..	..	6	12 400
Norway..............	3	3.586		....	..	....	3	3 586	..	..	..	..	..	..	3	3 586
Spain................	2	2,157	..	....		....	2	2,157	..	..	..	..	..	..	2	2 157
Sweden.............	2	1,299	..	....	..	....	2	1,299	..	..	..	..	..	..	2	1,299
Total.........	552	1,321,438	6	1,154	3	195	561	1.322.787	14	23,241	9	758	23	23 999	584	1 346 786

During 1901, 47 steamers of over 5,000 tons each have been classed as compared with 61 during 1900, 52 during 1899, 47 during 1898, 24 during 1897, 31 during 1896, and 17 during 1895. Of these 47, eight belong to Germany; three to the United States of America; three to Holland; one to Japan; one to Austria-Hungary; one to Italy; and the remainder to the United Kingdom. The largest steamers included in the return are the Rijndam, 12,302 tons, Zeeland, 11,905 tons, and Haverford, 11,635 tons. Six sailing vessels of over 2,000 tons have been classed in 1901. These are the Brilliant, 3,765 tons, Valentine, 3,258 tons, Comet, 3,014 tons, Helene Blum, 2,767 tons, Alice, 2,630 tons, and Chateaubriand, 2,336 tons.

Of the tonnage classed during the year, 1,186,437 tons, or 88 per cent., have been built in the United Kingdom. Among foreign countries, Italy, Germany and the United States of America contribute the largest amount of tonnage.

The return includes a statement showing the countries for which the vessels have been built. 887,631 tons, or 66 per cent., have been built for the United Kingdom, and 459,155 tons, or 34 per cent., for other countries. Germany leads with 104,370 tons; Austria-Hungary has 77,978 tons; Holland, 53,032 tons; Italy, 41,837 tons; France, 32,561 tons; and Russia, 30,864 tons. The United States of America, have 29,626 tons; and the British Colonies, 21,343 tons.

No other member of the animal kingdom displays more maternal affection than the whale, especially if its calf is harpooned. The harpooner never throws his harpoon this is done the mother will instantly forsake it. If alive this is done the mother will instantly forsake it If, alive and struggling, however, the dam can be easily enticed toward the boat to meet its fate. Knowing this, the whale fishermen always strike a calf if possible and thus often make captures that could not be affected under other circumstances. As soon as the dam becomes aware of the snaring of her young, she rushes toward it, encourages it to swim away and even assists it by taking it under her fin. She seems to lose all regard for her own safety and boldly attacks the boat containing the whalemen or circles about it totally regardless of the harpoons that are hurled at her and enter her flesh.

REAR ADMIRAL BRADFORD, Chief of the Bureau of Equipment of the Navy Department, has been authorized by the Secretary of the Navy to conduct experiments with all systems of wireless telegraphy with a view to the adoption for the navy of a system most suited to its needs. An officer of the navy, connected with the Bureau of Equipment, has recently been ordered to Berlin, Germany, for the purpose of inspecting the wireless telegraphy system used by that country. The Navy Department has purchased from a Berlin wireless telegraph concern a complete set of instruments, and will give the system an exhaustive test. Besides all of the vessels now under construction for the navy the Secretary of the Navy has directed that every ship sent to the navy yards for repairs of any description be equipped with the wireless telegraphy mast and other apparatus necessary for the installation of any system.

NOTES.

THE canal boatmen of Holland spend the greater part of their lives on their vessels. On them they eat, drink and sleep; and not only they, but their wives and families, too. Indeed, the canal boat is their only home. A canal boatman away from his boat is like a fish out of water, and just as helpless. From one year's end to the other he is plying along one or another of the many canals which everywhere intersect the land, carrying goods to all parts of the country. This being so, it is easy to understand why he should try to decorate and beautify his boat to the best of his ability. To that end he has the forepart of the craft covered with soil and planted with all kinds of gay flowers, turning it into a veritable flower garden; whilst the deck or living house is adorned by a plentiful application of red, green and yellow paint. The Dutch boatman, besides being a lover of the beautiful, has also an eye to the needs of the domestic department, and with this end in view converts the after-part of his boat into a vegetable garden, where all plants useful for the pot are cultivated. On some boats hens, ducks and goats are kept.

IN CONFIRMING his recent telegram to the Department announcing that a United States firm had been awarded the contract to supply 500 tons of sulphate of copper to the Currant Bank of Greece, Consul Jackson, of Patra, says that in all seven bids were received, representing American, English, German and Belgian firms. The bid of the successful American company—$45,015 for the 500 tons c. i. f. Patras—was $5.84 per ton lower than that of the nearest competitor. When the results of the bids were made public the following day, negotiations for 300 additional tons were begun by private firms, and, in the opinion of the consul, the United States will capture this year a large percentage of the Greek market for this product—a market worth, at a low estimate, $150,000. The consul adds that the success of the American offer was wholly unexpected by the European companies, several of which were of the belief that their prices had been cut so close as to render competition improbable. In fact, the American product was not considered at all on account of the exacting conditions governing the contract and the high trans-Atlantic freight rates.

IN CARRYING a railway across a river, engineers prefer bridging to tunneling for reasons which are obvious. A new departure is to be made by the Pennsylvania and Long Island railways in carrying their lines into New York. The proposal to build bridges has been rejected and a new method of crossing North and East rivers adopted, which may be described as submarine bridge building. North river particularly presents many difficulties, which would interfere with ordinary tunneling, the river bed being a soft, oozy mass of mud, varying from 75 to 100 feet in depth. Divested of technical terms, the proposition is to build a bridge beneath the river bed, supported on piers, which shall rest on the solid rock, and then enclose the bridge and tube are to be constructed simultaneously. In bridge in a steel tube to keep out the water and mud. The this way a structure of great strength will be secured, as the piers and bridge work, not the tube, will bear the weight of the trains. These bridge tunnels will take three years to build, at an estimated cost of $50,000,000. When completed they will be operated by electricity. The two roads will combine in building an immense underground station in New York.

* * *

APPOINTMENT OF OFFICERS.

THE WESTERN TRANSIT COMPANY.

STEAMER.	MASTER.	ENGINEER
Arabia,	H. L. Dennis,	W. C. Gilbert.
Auburn,	Edward Roberts,	Chas. L. Murray.
Boston	Henry Murphy,	Patrick Welch.
Buffalo,	Robert Murray,	Wm. McNulty.
Chicago,	S. R. Jones,	Henry Hess.
Commodore,	Thos. Slattery,	John Metke.
Mohawk,	John Davis,	Frank A. Miller.
Montana,	John McKinnon,	Jas. Sangers.
Rome	F. D. Osborn,	Wm. Tibby.
Syracuse,	John Fisher,	John W. Mark.
Troy,	Donald Gillies,	Michael J. Laney.
Vanderbilt,	F. J. Johnson,	Fred W. Hale.
Yonkers,	Michael Folan,	John W. Rainey.

MCLACHLAN TRANSPORTATION CO.

Pt. Huron, Mich.

G. F. Beilman,	J. W. Montgomery	Geo. Charleston.
M. E. McLachlan,	W. R. Maitland	

TOLEDO & ANN ARBOR R. R. CO.

Toledo.

Ann Arbor No. 1,	H. J. Rydt,	W. H. Aldrich.
Ann Arbor No. 2,	E. Williams,	T. Cosgrave.
Ann Arbor No. 3,	W. P. Robertson	W. H. Brown.

UNION TRANSIT CO.,

Buffalo N. Y.

J. M. Nicol,	Wm. McLean,	Geo. W. Haig.
Eber Ward,	J. L. McIntosh,	Jas. Countryman.
W. H. Stevens,	John Tyrney,	Jos. Jamieson,
Portage,	Wm. Rice,	Dennis Strubel.
Rochester,	P. O'Neil,	Nelson Johnson.
New York,	Norman McGuire,	John Caul.

A TRUSCOTT BOAT

SIMPLE, SAFE, RELIABLE, SPEEDY.

It may be possible to build better and safer boats, but it hasn't been done yet.

We send a completely illustrated catalogue and price list free, which tells you all about boats and

WHY TRUSCOTT BOATS EXCEL.

Truscott Boat Mfg. Co.,
ST. JOSEPH, MICH.

Pintsch Gas Lighted Buoys.

Adopted by the English, German, French, Russian, Italian and United States Light-House Departments for channel and harbor lighting. Over 1,000 gas buoys and gas beacons in service.

Burn Continuously

from 80 to 365 days and nights without attention, and can be seen a distance of six miles. . . . . .

Controlled by

THE SAFETY CAR HEATING AND LIGHTING CO.

160 Broadway, New York City.

NOTICE TO MARINERS.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, CANADA, FEBRUARY 18, 1902.

ONTARIO.—LAKE ERIE.—LONG POINT.—LIFE-BOAT REMOVED.

The life-boat heretofore maintained by the Government of Canada at Port Rowan, north shore of Lake Erie, has been removed to a point on the shore, 2½ miles west from west end of Long Point light-house, where a boathouse has been built on the low sandy shore. In consequence of this removal of the life-boat the signal arranged to be shown from the west end of Long Point light-house as a call for the life-boat is no longer of use, and will be discontinued. The note respecting the obscuration of the light for this purpose should therefore be removed from the remark column of the list of lights.

GODERICH.

The waterworks pumphouse, upon which the steam fog whistle is placed, had a new brick chimney added to it in 1900. The new chimney is taller than the old one, which still remains. .The building is of red brick with shingled roof, is partially hidden from the northwest by storehouses, and bears S. 65° E., 1780 feet from the outer red light. The front range light (fixed red) is 15 feet from the south edge of the north breakwater and 117 feet from its outer end. The black range light (fixed green) is also upon the north breakwater, S. 77° E., 1533 feet from the front light. Directions.—Vessels approaching Goderich harbor should not get within a mile from the shore until the present range lights are in line bearing S. 77° E. or the green light opens a little south of the red light. When about 700 feet off the north pier so open the green light is to be from 25 to 150 feet south of the prolongation of the south face of the north pier. This will place a vessel between the spar buoys. A good mark for day use is the north corner of the large elevator exactly over the north pile on the checkwater pier at the inner end of the south protection pier. Keep this range on until abreast of the green light, when change course to pass 25 to 50 feet off the checkwater pier and haul up for the elevator or other wharves on the south side of the harbor. Following these directions a vessel may carry 19 feet to the elevator or the wharf on the south side of the harbor. There is a depth of 15 feet up to the wharf on the north side of the harbor, but it is used only for lumber vessels.

ST. JOSEPH CHANNEL.—HILTON WHARF.—LIGHT DISCONTINUED.

The private light maintained on the wharf at Hilton, north shore of St. Joseph Island, since 1896, has been discontinued.

LAKE SUPERIOR.—BATCHAWANA BAY.

The Geographic Board of Canada have decided on the spelling "Batchawana," for the name of the bay at the east end of Lake Superior. This spelling will accordingly be adopted in the Canadian list of lights.

GALOO ISLAND.—INTENDED CHANGE IN COLOR OF LIGHT-HOUSE.

On the opening of navigation in 1902, or as soon thereafter as practicable, the color of the tower will be changed from gray to white. This station, is located on the southwesterly end of Galoo Island, eastern end of Lake Ontario.

STONY POINT.—LIGHT IMPROVED.

On the opening of navigation in 1902, the characteristic of the fifth order light at this station will be changed by reducing the interval between flashes from 2 to 1 minute so that is will thereafter be fixed white varied by a white flash every minute. The station is located on Stony Point, eastern end of Lake Ontario.

BIG SODUS.—OUTER LIGHT IMPROVED.

On the opening of navigation in 1902, the characteristic of the fourth order light at this station will be changed by reducing the interval between flashes from 2 minutes to 30 seconds, so that it will thereafter be fixed white varied by a white flash every 30 seconds. This station is located on the outer end of the west pier, entrance to Big Sodus Bay, southern shore of Lake Ontario.

LAKE ERIE.—BUFFALO HARBOR.—SHOAL AT NORTH ENTRANCE.

The shoal on which the steamer "Chicago" struck, in the north entrance to Buffalo harbor, has been examined and located. It is about 500 feet square and lies in a position from which the Buffalo breakwater light and fog signal station bears about N. 84° 23′ E. (N. 79° E. true), distant 900 feet. There is a depth of 21 feet of water over the shoal at normal lake level, but when the "Chicago" struck it the water in Buffalo harbor was about 3 feet lower than usual, owing to easterly winds, and there was also quite a heavy sea running.

HORSESHOE REEF LIGHT STATION.—INTENDED CHANGE IN CHARACTER OF LIGHT.

On the opening of navigation in 1902, the characteristic of the fourth order light at Horseshoe Reef light station will be changed by reducing the interval between flashes from 90 to 30 seconds, so that it will thereafter be fixed white varied by a white flash every 30 seconds. This station is located at Horseshoe Reef, New York, northeastern end of Lake Erie, near the head of Niagara river, and on the northeast side of the approach to Buffalo harbor.

SANDUSKY BAY LIGHT STATIONS.—INTENDED CHANGE IN ILLUMINATED ARCS.

On the opening of navigation in 1902, the following changes will be made in the lights at Sandusky Bay outer range light station. Front Light.—The illuminated arc of this fixed white fifth order light will be changed from 180° to 315° between the bearings N. 35° 30′ E. (N. 34° 30′ E. true), and N. 80° 30′ E. (N. 79° 30′ E. true) and will be bisected by the range line. Rear Light.—The illuminated arc of this fixed white fifth order light will be changed from 315° to 180°, and the light will then illuminate the horizon to the eastward between the bearings S. 32° E. (S. 33° E. true) and N. .32° W. (N. 33° W. true), or 90° on either side of the range line. These lights are located in the easterly part of Sandusky Bay, on the western prolongation of the axis of the improved channel from Lake Erie into Sandusky Bay, Ohio.

On the opening of navigation in 1902, the arc of illumination of Sandusky Bay inner range front light, fixed red, sixth order, will be reduced from 180° to 90° and the light will then illuminate the horizon to the southward between the bearings N. 26° 56′ W. (N. 27° 56′ W. true) and N. 63° 4′ E. (N. 62° 04′ E. true), or 45° on either side of the range line. The station is located on the northern prolongation of the axis of the straight channel in Sandusky Bay, Ohio, southern side of the western part of Lake Erie.

DETROIT RIVER.—GRASSY ISLAND NORTH CHANNEL RANGE LIGHTS.—INTENDED CHANGE IN COLOR OF BUILDINGS.

On the opening of navigation in 1902, the color of the keeper's dwelling and the towers at this station will be changed from yellowish drab to light straw color with white trimmings. This station is located to the northward and westward of Grassy Island, western side of the main entrance of Detroit river.

GROSSE ISLE SOUTH CHANNEL.—INTENDED CHANGE OF COLOR OF RANGE LIGHTS.

On the opening of navigation in 1902 the color of the two lights at Grosse Isle south channel range light station, will be changed from white to red without other change. The station is located near the northern end of Grosse Isle, western side of the main channel of the Detroit river.

F. GOURDEAU.
Deputy Minister.

Department of Marine and Fisheries, Ottawa, Canada, 18th February, 1902.

COASTWISE COMMERCE ON THE GREAT LAKES.

FROM THE SUMMARY OF COMMERCE AND FINANCE FOR JANUARY.

The winter operations on the Great Lakes are confined mainly to the translake traffic on Lake Michigan and other traffic between local points on the upper lake coasts. The total tonnage reported, reducing all units to net tons, for January, 1902, amounted to 200,283 net tons received, compared with 200,450 net tons in January, 1901; and 206,845 net tons shipped, compared with 200,450 net tons in January 1901. Detailed statements are made for eighteen receiving and sixteen shipping ports for this month.

With this month comparative statements for January, 1901 and 1902, of lake traffic operations between domestic ports appear for the first time in all the more important classes of commodities received and shipped.

The traffic on the Great Lakes during the winter months is confined principally to cross-lake and local traffic between Chicago and other ports on the southern portion of Lake Michigan, this lake being the only one open to navigation.

The only freight rate reported this month was on lumber from east-shore points on Lake Michigan to Chicago, at $2.50 per thousand feet.

EASTERN FREIGHTS.

Messrs. Funch, Edye, & Co., New York, report the condition of the eastern freight market as follows:

We have again to report only a small amount of business transacted during the current week, which indicates the featureless state of the market. For long voyage business, two steamers have been closed for case oil at slightly increased figures, and further tonnage could be placed on about the same basis. A few charters have been effected for timber from the Gulf at rates previously quoted, although shippers are not anxious to make further commitments unless owners agree to some concessions. The freight market can only be described as stagnant, there being no demand to speak of in any direction.

In regard to sail tonnage we can report a slightly improved demand for long voyage ships, especially for such as are suitable to load case oil to the Far East and to Australia, at rates that show a trifle more stability than of late. Otherwise the market remains quiet and unchanged.

Grain to London, 3½ cents; to Liverpool or Glasgow, 3 cents.

SUBMARINE CRAFT.

The House Committee on Naval Affairs has received, through Representative Hill, of Connecticut, a petition from the Lake Torpedo Boat Co., of Bridgeport, Conn., concerning submarine boats, asking that a clause be included in the appropriation bill authorizing the Secretary of the Navy "to contract for or purchase not to exceed three submarine boats at a price not exceeding $175,000 each; provided, that prior to said purchase or contract for said boats any American inventor or owner of a submarine boat may give reasonable notice and have his submarine boat tested before Oct. 1, 1902, by comparison or competition, or both, with a government submarine boat, or any private competitor," and the board appointed for conducting such tests shall report the results of the competition with its recommendations, to the Secretary of the Navy, who may purchase or contract for submarine boats in a manner that will best advance the interests of the United States in submarine warfare." Simon Lake, president of this company, states that this clause which he proposes, is intended to give American inventors "a fair and impartial opportunity to compete in the science of submarine warfare and thereby engender healthy competition, which will develop the highest type of submarine craft and reward American inventors."

TREASURY DECISIONS.

TREASURY DEPARTMENT, March 4, 1902.

Registry of Vessels.—Vessels of Foreign Build Disabled at Sea Can Not be Registered as Vessels Wrecked in the United States.

SIR: The Bureau invites your attention further to the case of the German ship Otto Gildemeister, mentioned in the letter of the 11th ultimo, relating to an application for her registry as a vessel of the United States on the ground that she was wrecked within the United States, and therefore that the case is within the purview of section 4136 of the Revised Statutes, authorizing the registry if vessels so wrecked, subject to certain conditions.

Referring to your recommendation that the application receive favorable consideration, the Bureau has to state that it is now in receipt of a marine protest made by Capt. Wilmsen, formerly master of the ship, and authenticated by the seal of the German consulate, showing that the ship was dismasted and disabled 2,000 miles, more or less, off the west coast of the United States, and indicating that she has sustained no material injury within the United States. The protest sets forth an entirely different state of things from that sworn to in the evidence forwarded from your office. You will please notice that in the documentary evidence you submit is an affidavit from H. Usinger, chief mate of the ship, that she was dismasted and wrecked within three miles of the shores of the United States, and that said "permanent disability" was sustained in the waters of the United States; and you will please notice, also, that it is stated in the petition that the vessel was "wrecked in the waters of the United States by a hurricane, which dismasted and permanently disabled" her, so that she became unseaworthy.

In view of the apparent conclusive evidence in the protest, showing that the Otto Gildemeister was not wrecked in the United States, the Bureau declines to authorize her registry as a vessel of the United States, and requests that you bring the circumstances to the attention of the United States attorney for such action as on investigation he may find the facts demand.

I will thank you to report the final disposition of the matter.

Respectfully,
E. T. CHAMBERLAIN, Commissioner.
Collector of Customs, San Francisco, Cal.

Registers and Crew Lists.—American Vessels Proceeding From Atlantic to Pacific Ports Should Comply, Under Certain Circumstances, With the Regulations Relating to Registry and Crew Lists.

TREASURY DEPARTMENT, BUREAU OF NAVIGATION,
Washington, D. C., February 26, 1902.

SIR: This department is in receipt of your letter dated the 10th instant, transmitting for its information correspondence relative to the American ship Helen Brewer, which proceeded from New York to your port under enrollment and failed to exhibit a certified crew list.

If the vessel touched at a foreign port, it is probable that the courts would apply section 45775, Revised Statutes.

For your further information, I inclose herewith a copy of a letter dated November 5, 1888, to F. S. Dyer, regarding the schooner Carrie A. Lane, and refer you to decision 22232 (Treasury Decisions, vol. 3, p. 454), as throwing light upon the matter.

You will please advise masters of vessels accordingly.

Respectfully,
O. L. SPAULDING, Acting Secretary.
Collector of Customs, Honolulu, H. I.

LEGACY TAX—LIFE INSURANCE.

The proceeds from a life insurance policy, payable to a party insured or his legal representative, is a part of decendent's estate. If payable to someone else, the proceeds are not to be treated as a part of his estate, but are payable direct to the beneficiaries named in the policy, and are not subject to legacy tax.

TREASURY DEPARTMENT,
OFFICE OF COMMISSIONER OF INTERNAL REVENUE,
WASHINGTON, D. C., March 6, 1902.

SIR: This office is in receipt of a letter, dated the 28th ultimo, from Messrs Nash & Nash, lawyers, Manitowoc, Wis., requesting to be advised as to whether life insurance money payable to children of the deceased would be taxable, or whether life insurance under any circumstances is subject to legacy tax.

In reply, you may inform Messrs. Nash & Nash, who have this day been referred to you, that the title to a life insurance policy and the proceeds thereof vary according to the terms of the policy and the circumstances of the case. Where it is payable to the party insured, or his executors, administrators, or assigns, the legal representatives of the insured are entitled to the proceeds as a part of the estate, and it should then be inventoried. Where the insurance is payable on the death of the insured to someone else named, it is not to be treated as a part of his estate, subject to his debts, but should be paid directly to the beneficiaries, and is not considered a legacy or distributive share subject to tax. This, I understand, is the general course of decisions. (See American and English Ency. of Law, vol. 13, p. 650.)

Therefore, if any one of the children does not receive a sum exceeding $10,000, not including the money from the life insurance policies made payable to them, then no tax accrues on such legacy.

Respectfully, J. W. YERKES, Commissioner.
MR. HENRY FINK,
Collector First District, Milwaukee, Wis.

DRAWBACK ON PIG IRON.

Drawback on pig iron manufactured by the Buffalo Union Furnace Company, of Buffalo, N. Y., from imported and domestic iron ores.

TREASURY DEPARTMENT, March 8, 1902.

SIR: On the report of pig iron manufactured by the Buffalo Union Furnace Co., of Buffalo, N. Y., with the use of iron ores, imported and domestic, combined in stated proportions, as shown by the manufacturing records of the company, a drawback will be allowed equal in amount to the duty paid on the imported material used, less the legal deduction of 1 per cent.

The preliminary entry must show the approximate weight of pig iron shipped, manufactured under a given formula, and in case the shipment consists of iron made under two or more formulas, the approximate weight of iron made under each formula must be stated.

The drawback entry must show the exact weight of pig iron exported, maunfactured under each formula, the "cast numbers" represented thereby, and the proportions of foreign and domestic ores used in the manufacture of the same, respectively, for each formula, as shown by the daily record manufacture. Said entry must further show the average percentages of metallic iron contained in such ores, and the weight of imported ore on which drawback of duties is claimed, separately for each formula and in the aggregate.

As a prerequisite of liquidation, the manufacturer must file with the collector, to form a part the drawback papers, a sworn abstract from the manufacturing records, showing in detail the dates of manufacture of the exported iron, the cast numbers, as stated in the drawback entry, their respective weights, the proportionate weights of imported and domestic ores used in the manufacture of the same under each formula, and the total weight of imported ore used. The actual weight of imported ore used under each formula and of the pig iron produced therefrom must also be stated.

The oath appended to the said abstract must set forth that it correctly represents the average results of manufacture of the exported iron, and that the proportions and quantities of the various ores, imported and domestic, which entered into the manufacture of the same, under the several formulas, as therein set forth, are just and true in all respects. Prior to liquidation, the correctness of the said abstracts must be verified by a comparison of the same with the manufacturing records.

In liquidation, the quantity of imported ore which may be taken as a basis for allowance of drawback may equal the quantity used, as declared in the drawback entry, but in no case shall it exceed, for each ton of pig iron exported, manufactured under a given formula, a quantity determined by dividing the total weight of the said ore used under such formula by the total number of tons of pig iron produced therefrom, as shown in the sworn abstract prescribed in the preceding paragraph.

Casts of the exported iron must be placed in separate piles, and must be plainly marked in white paint with their proper serial numbers, as shown in the manufacturing records. Weights and cast numbers of the iron as piled, marked, and laden for export must be officially verified.

Respectfully, O. L. SPAULDING,
(8142 k.) Acting Secretary.
Collector of Customs, New York, N. Y.

* * *

MARINE PATENTS.

694,939.—Caisson for subaqueous work. Charles Blagburn, San Francisco, Cal.

695,011.—Oar lock. Clinton A. Tunsley, Fort Plain, N. Y., assignor of one-half to Carl H. Greene, same place.

695,067.—Hoisting or lowering apparatus for boats. Hugh A. Mallon, Buffalo, N. Y., assignor to Louise P. Mallon, same place.

695,068.—Apparatus for raising submarine deposits. Jacob Mangold and Gustave A. Schlinsock, Milwaukee, Wis.

695,108.—War vessel. Hudson Maxim, London, England.

695,215.—Submarine boat. Simon Lake, Bridgeport, Conn.

695,276.—Marine propeller. Burrell Cannon, Pittsburg, Tex.

695,331.—Apparatus for raising sunken vessels. Friedrich G. Nielson, Sonderburg, Germany.

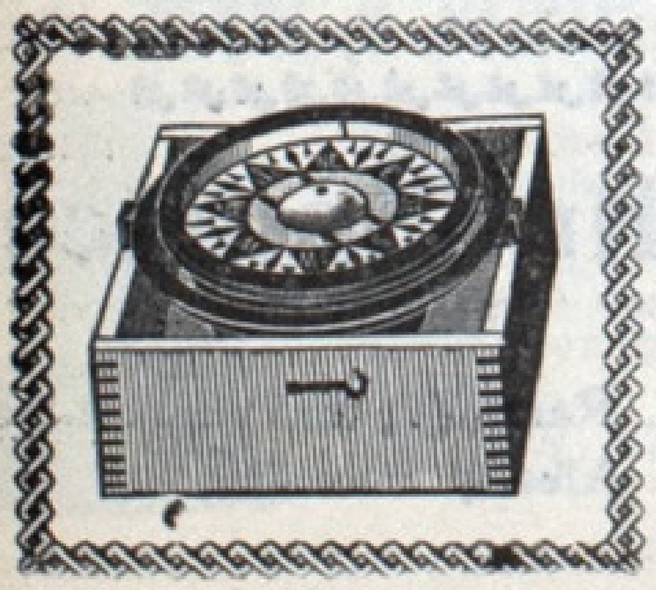
695,389.—Propeller wheel. Leander W. Hammond, Plainfield, N. J.

* * *

IT IS REPORTED in shipping circles, according to the Journal of Commerce, that it is the intention of the Great Northern Steamship Co. (the Great Northern Railway) to place under a foreign flag its new steamers now building for the Oriental trade at the Eastern shipbuilding yards, New London, Conn. Much interest has naturally been caused by the report, as these two steamers, when completed, will be the largest vessels in point of tonnage, displacement and carrying capacity in the world. They will be about 21,000 tons register and 38,000 tons load displacement to the deep load line. Investigation shows, that the paper mentioned that while the report may not be declared entirely correct, there is much substantial basis for it. The facts are that competition in the Oriental trade is so keen—and is constantly becoming keener—that J. J. Hill and his friends feel the need of securing every advantage possible. Preference leans apparently towards the German flag, owing to Germanny's advantageous navigation laws. Mr. Hill's objections to the American flag are said not to be based on the question of expense or high wages, but on the lack of protection to ship owners. The German laws give the captain the most effective control of the crew.

MARVELOUS
THE NEW
BAUSCH & LOMB-ZEISS
STEREO Binocular Glasses.
Used by the Armies and Navies of the World.
Invaluable for Tourists, Sportsmen and Every-day Use. Booklet Free.
Bausch & Lomb Optical Co.,
Rochester, N. Y.
New York. Chicago.
For sale by all dealers.

S. F. HODGE & CO.
MARINE ENGINES,
PROPELLER WHEELS,
DECK HOISTERS,
MARINE REPAIRS.
312 ATWATER STREET,
DETROIT, MICH.



THE Bliss LIQUID (Spirit) COMPASS

Made in seven sizes by JOHN BLISS & CO., 128 Front Street, New York, is finely finished sensitive, accurate and durable. Moves quickly and is extremely steady. Is the best Liquid Compass ever made in this or any country. For sale by ship chandlers generally

PICKANDS, MATHER & CO.

PIG IRON.
IRON ORE AND COAL.

FUEL LIGHTERS AT BUFFALO, ERIE, ASHTABULA, AND CLEVELAND.

At DETOUR, MICH., A FUEL DOCK equipped with Shute capacity of 600 Tons.
Best Quality PITTSBURGH COAL furnished at any time during Day or Night.

WESTERN RESERVE BUILDING, CLEVELAND, O.

THE Y&L

Steamboat Fuel at Chicago.
YOUGHIOGHENY and
LEHIGH COAL CO.

J. T. CONNERY, Manager. ARCHIE J. HITCHCOCK, Dock Supt.
MAIN OFFICE: 1238-1242 Chicago Stock Exchange Building.
Long Distance Telephone, Main 5049. 110 LA SALLE STREET.

FUEL DOCKS: No. 1, Michigan Slip and Basin. 'Phone 3046, Main.
No. 2, N. Halstead St. Bridge. 'Phone 773, North.

FUEL LIGHTER: Equipped with 125 2-ton Buckets for Fueling anywhere in Harbor

WE PRODUCE OUR YOUGHIOGHENY COAL AND GUARANTEE QUALITY.

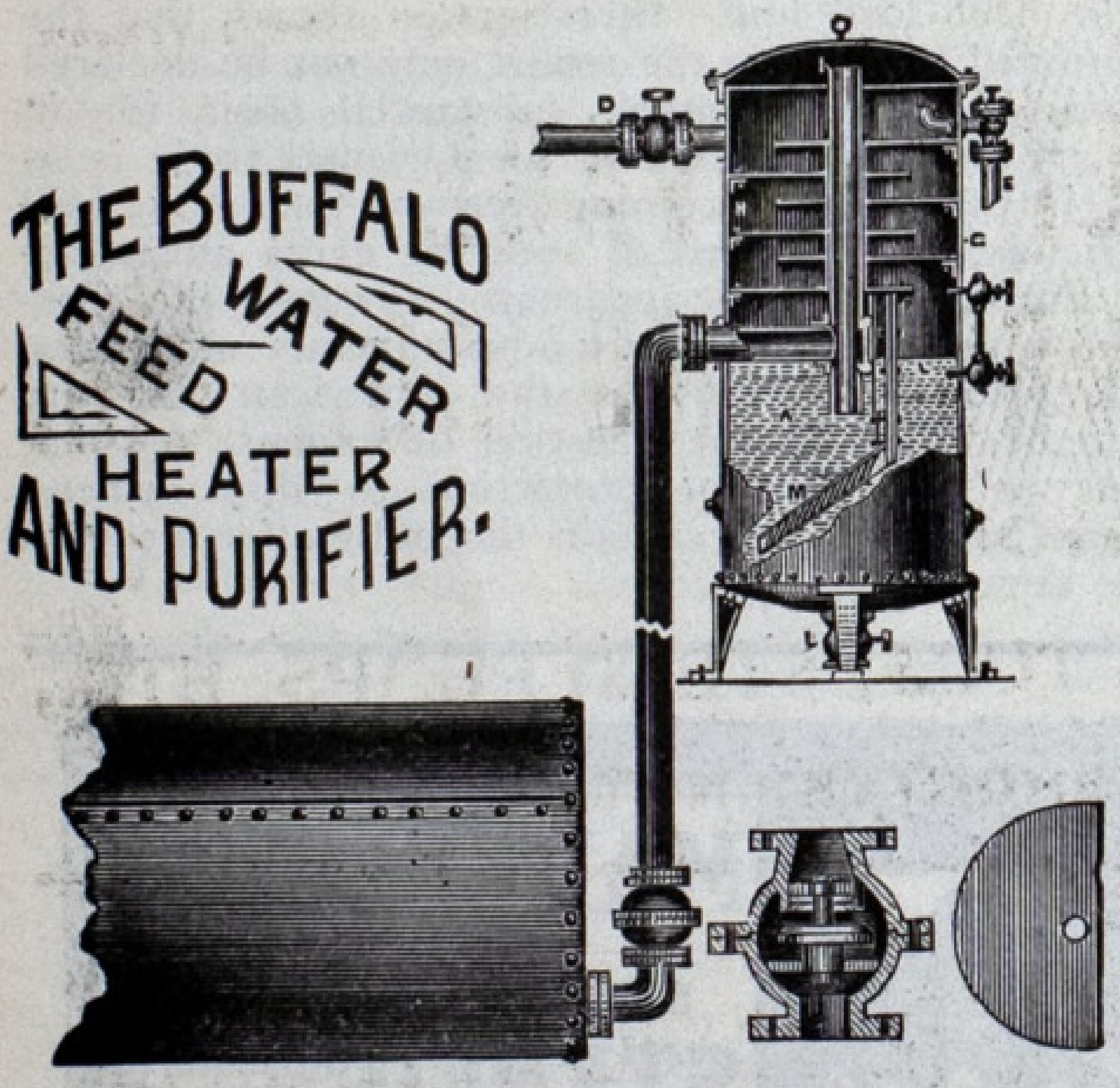
IN PRACTICAL USE ON THE BEST AND LARGEST LAKE STEAMERS

Using all Types of Boilers and all Pressures of Steam.

Every Purifier Warranted to Remove all Sediment or Scale-Forming Substance.

ROBERT LEARMONTH,
PATENTEE,

SEND FOR CIRCULAR. 100 WHITE BLDG., BUFFALO, N. Y.



NAMES OF STEAMERS ON THE LAKES USING THE BUFFALO FEED WATER HEATER AND PURIFIER:

Zenith Transit Co.'s steamers Empire City, Crescent City, Zenith City, Superior City, Queen City, Pennsylvania and John W. Gates.

The Republic Iron Co.'s steamers America, Brazil, Thomas Maytham and Chili.

Mitchell Transportation Co.'s steamer Hendrick S. Holden.

Minnesota Iron Co.'s steamer Presque Isle.

American Steel Barge Co.'s steamer Alex. McDougall.

Lake Michigan & Lake Superior Transportation Co.'s steamer Manitou.

Bessemer Steamship Co.'s steamers S. F. B. Mcrse and Douglas Houghton.

American Transportation Co.'s steamers John Harper and Alex. Nimick.

Red Star Line's steamers Robert Mills and Wyoming.

Wilson Transit Line's steamers W. D. Rees and Andrew Carnegie.

And the steamer William R. Linn.

SOME OF THE DETAILS OF THE SHIPMATE.

The rail surrounding the top can be taken out without removing any bolts.

The long center is made in two pieces and supported, so that it cannot warp or sag.

The covers and center pieces are very heavy.

The hinge pins are all of Tobin bronze, and cannot rust.

No motion of the vessel can unfasten the oven door.

The Tinnerman Steel Range Co., 797-803 Lorain Street, Cleveland, have a full assortment of these ranges, and can fill orders for any size.

THE STAMFORD FOUNDRY COMPANY,
STAMFORD, CONN.

Established 1830.

M. A. HANNA & CO.

COAL, IRON ORE AND PIG IRON.

Steamboat Fuel at Ashtabula.
Large Supplies of Best Quality.

Fuel scow with elevators and discharging spouts. Storage of 650 tons. Discharges 150 tons an hour into steamers while unloading cargo.

LIGHTER
carrying different grades at all times.

MINERS AND SHIPPERS.

MAIN OFFICE, Perry-Payne Bldg., Cleveland, O.

THE W. L. SCOTT COMPANY
ERIE, PA.

WHOLESALE DEALERS IN
Shamokin-Wilkesbarre ANTHRACITE
Youghiogheny, Mansfield, PITTSBURG
COALS

VESSEL FUELING A SPECIALTY
by steam lighter or car dump at all hours. Electric Light.

MAIN OFFICE:
Scott Block. Long Distance 'Phone 440.
FUELING OFFICE:
Canal Dock, Long Distance 'Phone 320.

D. VIANCOURT & SON

Tin, Sheet Iron and Copper Works.

Repairing Stoves, Furnaces, Etc.
Boat Work a Specialty.

211 PEARL ST.
'PHONE A 1095.
CLEVELAND, O.

$28.20 to Charleston, S. C., and Return.

Via Big 4 Route. Get tickets at Collver's, 116 Euclid Ave.

THE CONDITIONS

Requisite for the most beautiful and most durable painting are a dry surface, dry weather, pure oil, a preponderance of

ZINC WHITE,

and plenty of time for drying between coats.

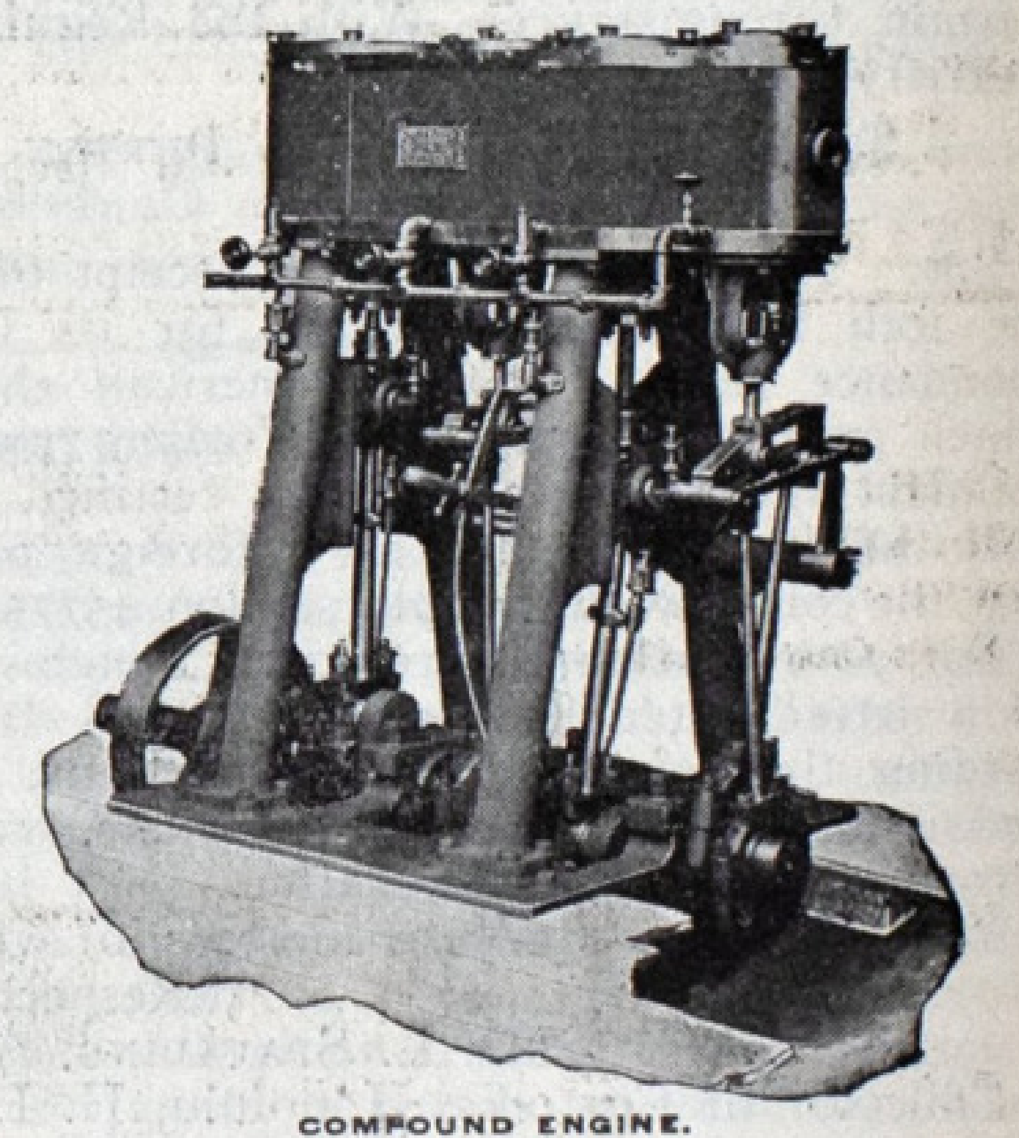
READ OUR PRACTICAL PAMPHLETS:

"PAINTS IN ARCHITECTURE,"
"THE PAINT QUESTION."

FREE TO ANY ADDRESS.

THE NEW JERSEY ZINC CO.,
11 Broadway, NEW YORK.

JOHN E. THROPP & SONS CO.,
TRENTON, N. J., U. S. A.



COMPOUND ENGINE.

BUILDERS OF
SINGLE, COMPOUND AND TRIPLE EXPANSION
ENGINES.
CONDENSERS.
BOYER SECTIONAL WATER TUBE
BOILERS.
PROPELLER WHEELS.
MACHINERY COMPLETE FOR PLEASURE YACHTS, TUG BOATS AND LIGHT DRAUGHT PASSENGER BOATS.

$41.00 to Los Angeles and San Francisco.

Seattle, Portland, Tacoma, etc., via Big 4 Route. Get tickets at Collver's 116 Euclid Ave.

Compasses Adjusted

For deviation, and deviation tables supplied. Great facilities for doing the work by day or night.

John Maurice.
CHICAGO.

Office, N. W. Cor. Randolph and Market Sts.
Residence, 1213 S. Albany Ave.
'Phone, Canal 767.

DULUTH-SUPERIOR.

Special Correspondence to The Marine Record.

Capt. J. W. Norcross, who was master of one of the big Peavey steamers, has been appointed manager of the Great Lakes & St. Lawrence River Co., of which Mr. A. B. Wolvin is president. Capt. Norcross took a number of ships to the coast. His headquarters will be at Quebec.

The opening of navigation on the upper lakes will be earlier than has ever been known. Ships will be plying between Duluth and Lake Erie ports bv April 1. The usual date is a month later. An opening of navigation thirty days ahead of the usual time means an addition of the capacity of the lake fleet amounting to at least 15 per cent.

One of the most important freight meetings from a northwestern standpoint this season has just completed its session. At this meeting lake and rail rates on export and domestic flour and products incidental thereto were determined upon. The flour rate was cut three cents from the tariff in effect when the season of 1901 opened. This season the lake and rail rate on domestic flour will be 22 cents to the seaboard and 19½ cents on the export business. These rates are three cents under the agreed all-rail rate, the recognized differential allowed the lake carriers. These new tariffs will take effect on April 1.

It is learned that the Algoma Central Steamship Co., of which F. H. Clergue is manager, has chartered six vessels for the season, instead of four. The boats of the Davidson fleet that he has secured are the steamers Rappahannock and Sacramento and schooners Matanzas and Pretoria. It is also claimed that he has the two steamers building for Edward Carter, of Erie. With his own fleet of four steamers and three barges, he will have thirteen vessels for the Michipicoten trade. On lumber at the head of the lakes to Lake Erie ports, $2.50 is offered pretty freely and several tows were chartered at that figure during the week. The grain market is quiet. The head of the lakes will have about 6,000,000 bushels of wheat in store at the opening, and it is expected to move out quite freely. Rates for moving the grain are reasonable, and much of the grain will go that was expected to move last fall, and which did not, owing to the limited foreign demand. The coal men have done some figuring, but it is not likely that any big contracts will be made until prices are fixed.

The shipping of iron ore from the mines to the docks at the head of the lakes, Duluth, Superior, and Two Harbors, will, it is expected, begin about the 20th inst. If the present fine weather continues the shipping will begin not later than the last week of March. There is now every indication of an unusually early opening of navigation. A few days more of weather similar to that of last week will dispel all doubts. Boats could now get in and out of Duluth harbor, and there has not been two weeks altogether this winter when they could not. Had emergency demanded it, the boats could have gone in and out almost every day this winter. The steamers Bon Ami and Hunter, which ran until late in February, are now being fitted out at Two Harbors, with a view to beginning the regular season of 1902 on April 1.

An important deal in standing pine in Bayfield county, Wis., is pending. The Edward Hines Lumber Co., of Chicago, holds an option to purchase the standing pine owned by the Bigelow Bros. Lumber Co., of Ashland. The deal carries with it the Bigelow sawmill at Ashland, and altogether is one of the biggest transactions in this line that has been announced for a long time. It is reported that cruisers for the Edward Hines Lumber Co. are looking the timber over, and after that is done the deal may be completed. The Edward Hines Lumber Co. is rapidly becoming more and more of a factor in the lumber business of the western end of Lake Superior. At present about half of its holding of standing pine will be manufactured at the head of the lakes and the other half at Ashland. If the company takes over the Bigelow pine it will have holdings of standing pine amounting to about 1,000,000,000 feet tributary to Duluth and Ashland.

The Hampton Roads Ship Building and Dry-Dock Co., a new corporation, which has been capitalized at $2,000,000, reports that it has obtained a site for a new shipbuilding yard at Sewall's Point, near Norfolk, Va. The new ship yard will cover an area of 100 acres, and the company has obtained 600 acres of land immediately adjoining it on which to erect homes for the workmen in the company's employ. The plant will be equipped with marine railways large enough to handle vessels of 1,000 tons register, and the repair shops, molding rooms and machine shops will all be of the most modern types and built of brick. The incorporators of the company include among other well-known men ex-Governor Atkinson, of Virginia; State Treasurer Peter Gilman, of West Virginia; R. C. McCoy, of Pittsburg; and W. H. Anderson, of Wheeling, W. Va.

FOR SALE One Air Pump 31 inch diameter, 12 inch stroke, arranged for direct connection, in good condition, taken from S. S. Manitou to be re-placed by a larger one.

Also one hoisting engine 12 inch cylinder made by Chas. Elmes, never been used.

Above can be seen at Chicago Ship Building Co.'s yard, South Chicago.

Inquire of MANITOU S. S. CO.,
Chicago.

Go to Florida and Cuba

Via Big 4—direct route. Get tickets at Collver's 11 Euclid Ave.

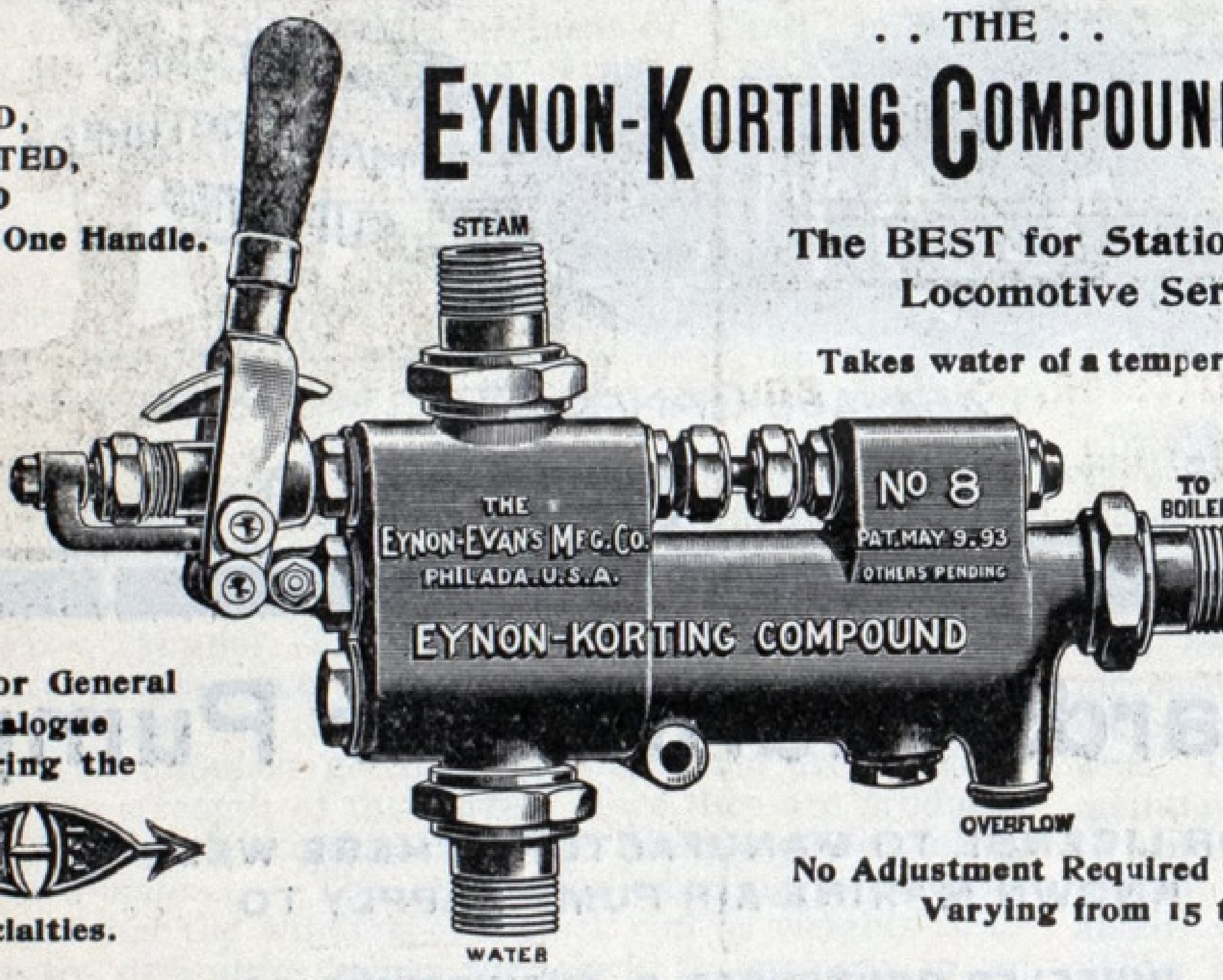
THE CHASE MACHINE COMPANY,
ENGINEERS AND MACHINISTS.

MANUFACTURERS, UNDER THE CHASE PATENTS, OF
Fog Whistle Machines, Hoisting Engines, Steering Engines Automatic Towing Engines,
Power and Drop Hammers, and other Machinery. Engineers' Supplies and General Jobbing.

111 ELM STREET. TELEPHONE, MAIN 994. CLEVELAND, O.

.. THE ..
EYNON-KORTING COMPOUND INJECTOR.

STARTED, REGULATED, STOPPED With One Handle.



The BEST for Stationary, Marine or Locomotive Service.

Takes water of a temperature of 150 degrees.

Will Lift Water 24 Feet.

Has a Greater Range than any other Injector.

Send for General Catalogue covering the Specialties.

No Adjustment Required for Steam Pressures Varying from 15 to 300 Lbs.

THE EYNON-EVANS MFG. CO.

15th and Clearfield Streets,
PHILADELPHIA, U. S. A.

New York Office, 107 Liberty Street.
Boston Office, 42 Oliver Street.

JOHN DONNELLY, SR., PRES.
JOHN DONNELLY, JR., VICE PRES.
H. B. FOLGER, TREAS.
THOS. DONNELLY, SEC'Y

THE DONNELLY SALVAGE AND WRECKING CO., Ltd.

KINGSTON, ONT.

EXPERIENCED DIVERS, TUGS, STEAM PUMPS, ETC.,
SUPPLIED ON SHORTEST NOTICE.

ORAM FIX. ESTABLISHED 1860. J. W. FIX.

S. FIX'S SONS,

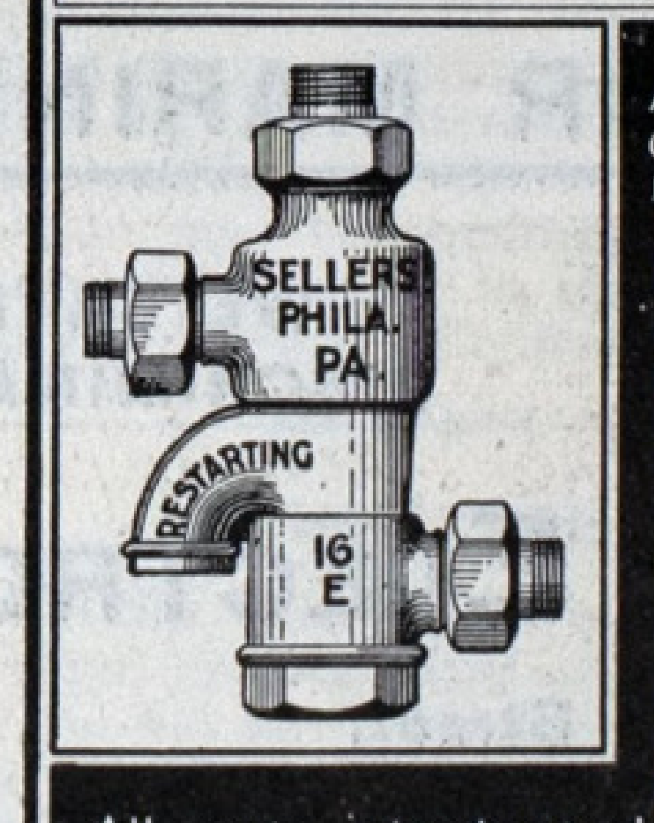
Successors to S. FIX & SON,

Steam Flue Welding Works

Our Work Stands Government Test.
Our Welds are Perfectly Smooth.
Write us for Prices.

COR. LEONARD AND WINTER STS. Cleveland, O.

Sellers' Restarting Injector



A strictly first class machine at moderate cost.

Perfectly automatic, has wide range of capacities, and raises water promptly with hot or cold pipes.

Very simple, has few parts and is easily repaired.

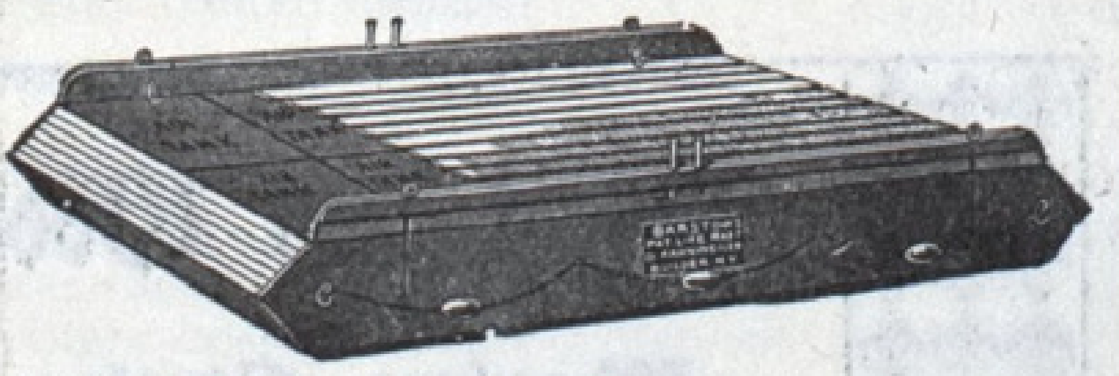
All parts interchangeable, made of the best bronze, and the workmanship is perfect. Send for special catalogue descriptive of this Injector.

JENKINS BROTHERS, Selling Agents
NEW YORK, BOSTON, PHILA., CHICAGO

NEVERSINK CORK JACKET AND LIFE BELT.

Warranted 24 lb. Buoyancy and full Weight of Cork, as required by U. S. Inspectors. **Consolidated Cork Life Preservers.** Superior to all others. **Rings Buoys and Fenders.** SAFEST CHEAPEST.
Approved and adopted by U. S. Board of Supervising Inspectors.
Also adopted by the principal Ocean, Lake and River Steamer Lines as the only Reliable Life Preserver. Vessels and trade supplied. Send for Catalogue.
Awardad four medals by World's Columbian Exposition.

METALLIC and WOODEN LIFE BOATS.



Metallic Life Rafts, Marine Drags.

Manufacturer of Woolsey's Patent Life Buoy, which is the lightest, cheapest and most compact Life Raft known. Send for illustrated catalogue. Get our prices before buying elsewhere.

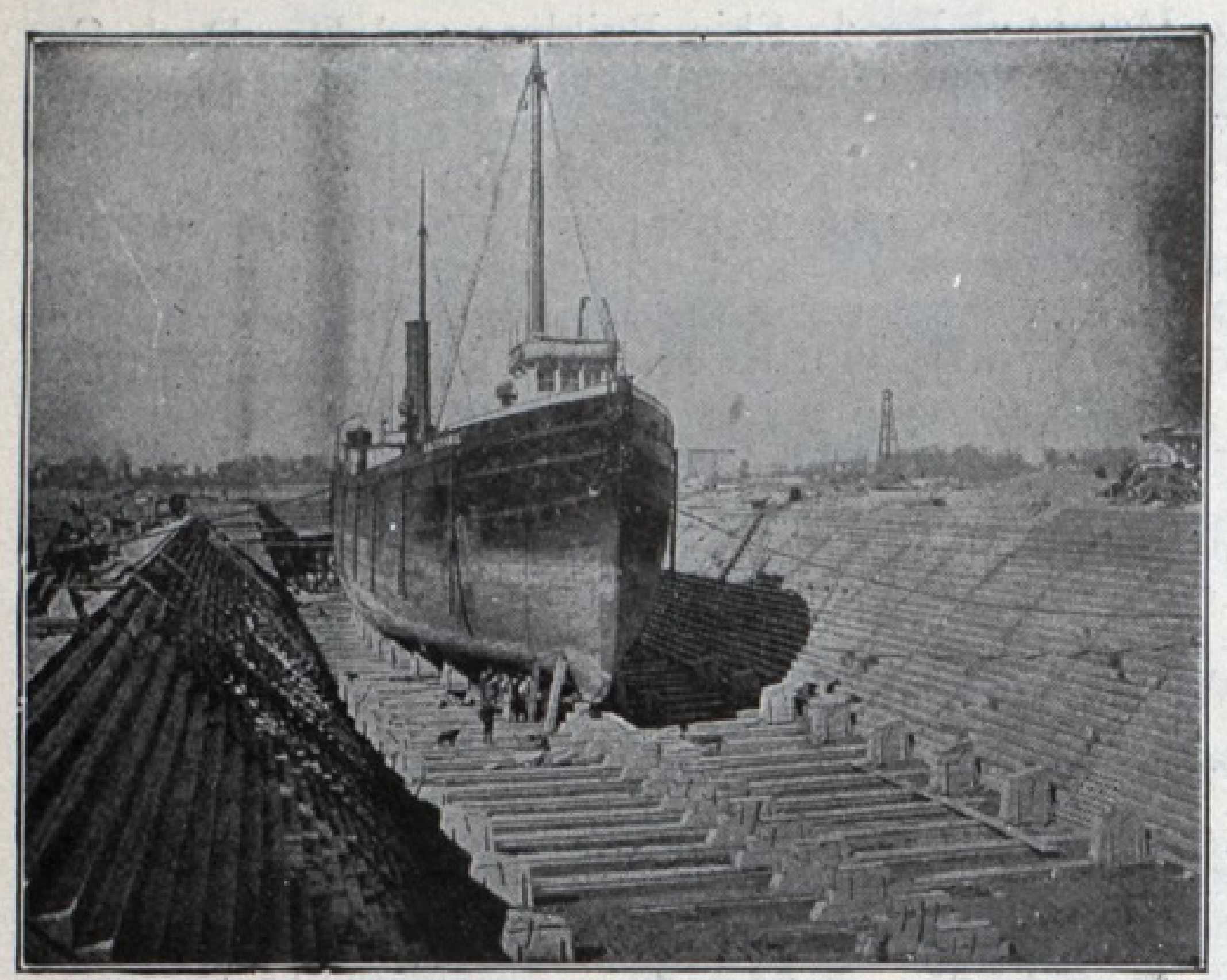
D. KAHNWEILER'S SONS 437 Pearl St. New York City.

IF U Want a PUMP or SYPHON

Write to the E. W. Vanduzen Co. of Cincinnati, O., for their catalogue 76. They give you facts and figures about their Steam Jet Pumps. A postal will bring full information by return mail free of charge.

THE E. W. VANDUZEN CO.,
Cincinnati, O.

A. J. MORSE & SON.
DIVING APPARATUS
140
CONGRESS ST. BOSTON.



Craig Ship Building Co.

TOLEDO, OHIO

New Dry-Dock 450 feet long, 110 feet wide on top, 55 feet wide on bottom, 16 feet water on sill.

Repairs to Metal and Wooden Ships a Specialty.

Metal and Wooden Ship Builders.

THOS. MACBETH, President. L. S. DICKEY, Manager.
C. W. KELLY, M. E., Vice President. C. J. SNOW, Sec'y and Treas.
JOHN G MESKER, Supt. of Machine Shop.

THE MACBETH IRON CO.

Machinists - Pattern Makers.

IRON, BRASS AND STEEL CASTINGS, AETNA GRATE BARS

REPAIR WORK A SPECIALTY.

57 West Center Street, CLEVELAND, OHIO.

BURTON & KENNEDY,

ENGINEERS AND MACHINISTS,

Manufacturers of the BURTON STEAM PUMP and Reducing Valve

Blacksmithing, Steamfitting and Repair Work given Prompt Attention.

PUMPS AND MARINE WORK A SPECIALTY.

Cor. Main and Center Streets, Phone Cuy. C. 500. CLEVELAND, O.

TELEPHONE WEST 244. RESIDENCE, 183 LAWN ST.

LAKE ERIE BOILER WORKS,

J. J. KEENEN & SONS, PROPRIETORS.

BOILERS, TANKS and SHEET IRON WORK, COAL and ORE BUCKETS

REPAIRING A SPECIALTY

Also Flues Taken Out, Pieced and Reset, New Flues always in stock.

COR. ELM AND HEMLOCK STS CLEVELAND, O.

COMPLETE ELECTRIC PLANTS

FOR MARINE PURPOSES.

WE CATER TO THE DISCRIMINATING BUYER.

THE ELECTRO-DYNAMIC CO.

212-226 Ionic Street, PHILADELPHIA, PA., U. S. A.

CABLE ADDRESS: EDCO, A B C CODE.

Telephone West 702 G.

WM. SWEENY,

PRACTICAL

Ship Carpenter and Caulker,

Office and Yard, Whiskey Island,
Near Willow Street Bridge,

CLEVELAND, - - - OHIO.

JOHN C. JOLL

SHIP CARPENTER,
CALKER and
SPAR MAKER.

Jobbing of all kinds promptly attended to.

'PHONES { MAIN 523 L. WEST 808 F. 63 Main St.
Res., 1097 Franklin Ave. CLEVELAND, O.

T. LONG, GEN'L. MGR. D. J. MURPHY, SUPT.

LONG & MURPHY BOILER CO.

MANUFACTURERS OF

MARINE BOILERS, COAL, ORE AND CLAMSHELL BUCKETS,
REPAIR WORK A SPECIALTY.

'PHONES: MAIN 786. A 2265. 120-126 ELM ST. NIGHT 'PHONE RIDGE 277 X. CLEVELAND, OHIO.

Britton T. & Sterling P. Day

BROKERS & DEALERS IN ROSIN AND OTHER OILS NAVAL STORES & MANUFACTURERS SUPPLIES.

464-468 CANAL ST,
Telephones, CUY-A-25
Cleveland, O.

Edwards Marine Air Pump.

FOR LICENSE TO MANUFACTURE THESE WELL-KNOWN MARINE AIR PUMPS APPLY TO

WHEELER CONDENSER & ENGINEERING CO.

120 LIBERTY ST,, NEW YORK.

SEND FOR PAMPHLET.

W. S. JENKS, President. O. L. JENKS, Vice Pres. and Treas. A. M. CARPENTER, Sec. and Gen'l Mgr

The Jenks Ship Building Co.

Office and Machine Shops
Fourth Street.

Yards
Foot of Lincoln Ave.

Steel and Wood Ship Builders.
Marine Engines and Boilers.

Port Huron, Mich.

STEAM WINDLASSES CAPSTANS AND STEERING APPARATUS